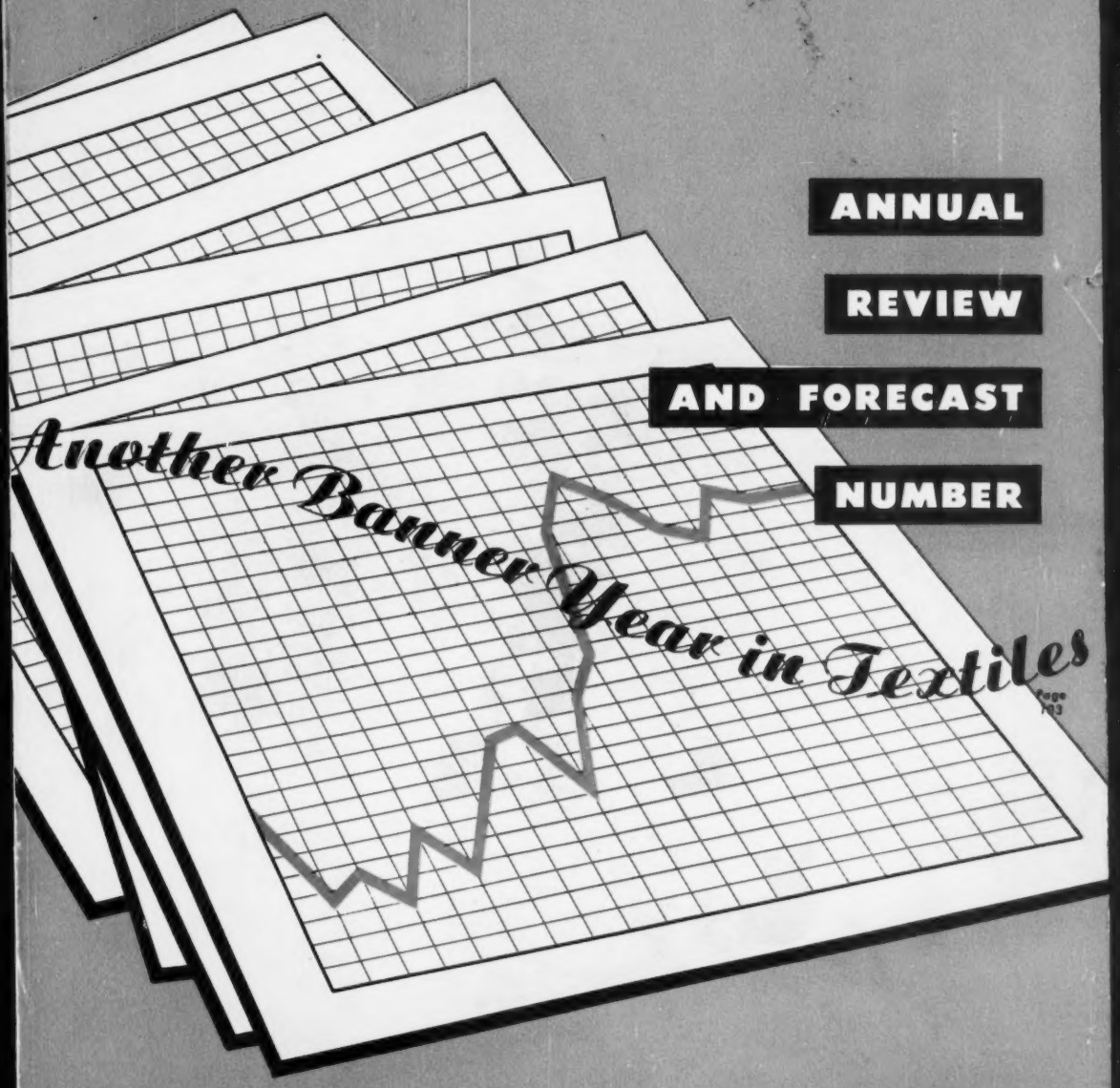
TEXTILE WORLD

A McGraw-Hill Publication ---------- FEBRUARY • 1949



ANNUAL REVIEW AND FORECAST NUMBER

Another Banner Year in Textiles

Page 103

RAYON-WEAVING MILL Is Called Ultramodern

Windowless construction, oil-resistant asphalt-tile floors, and 50 foot-candles of light at the working level are some features of the new weaving plant of Schneider Mills. More details are on page 120.

New Preparatory Machines Speed WOOL SCOURING

Elimination of manual handling and damage to wool fibers in opening, and delivering partially carded fibers to scouring are some advantages claimed for the Procter-Leonard Rosar wool-opening system—described on page 118.

HALF-HOSE LUBRICATION Should Be Simple

Fixed responsibility is the most important factor in machine lubrication. The system used by one knitting plant to insure proper periodic oiling is described in an article starting on page 126.

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Your Business Is Different!"

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- They are ground to close outside diameters to insure smooth operation in Draper Temples.
- There is a Draper temple roll for every weave—from the sheerest synthetics to the coarsest cottons.

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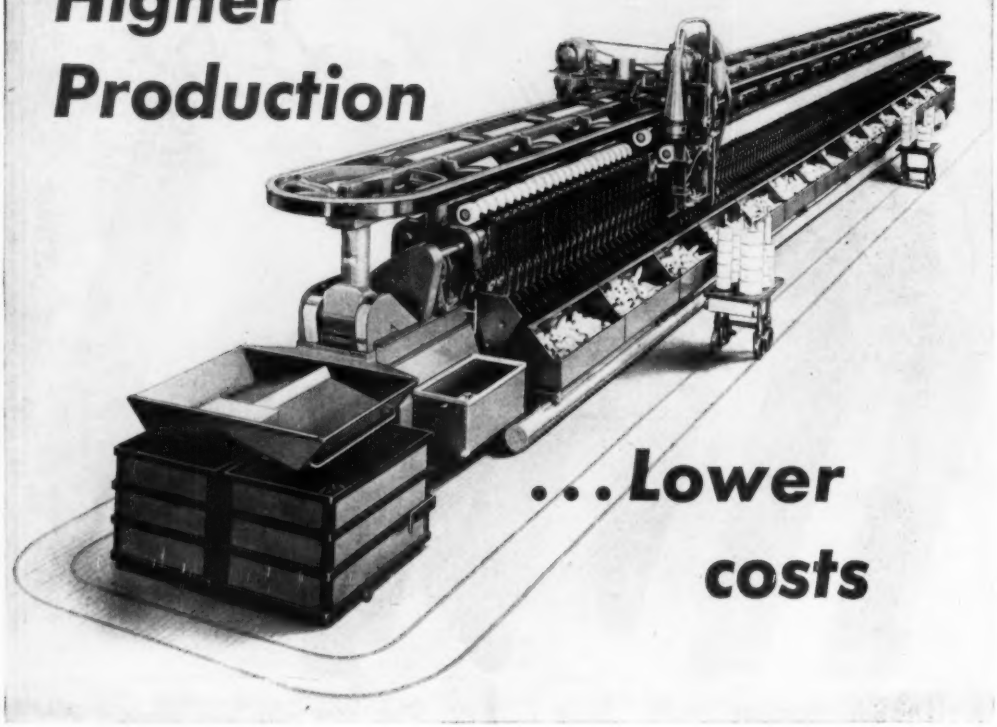

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FOR THE TEXTILE INDUSTRY

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FEBRUARY, 1949

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THE *Long-Range* VIEW

Is Your Technical Progress Showing?

"Is your technical progress showing?" That question appeared recently in *Business Week* in an advertisement for Sheldon, Morse, Hutchins & Easton, Inc. It is a question that deserves attention beyond its influence in creating desirable relations.

That question will cause many textile men to think of outstanding mills in which technical progress really has been showing—mills such as Dan River, Beaumont, Avondale, Forstmann, Pacific, Uxbridge. In this issue is announced the latest development by Bachmann Uxbridge, the automatic tacker. Like preceding developments of this company—the pin drafter, fugitive chalk, and the Gentle-Air slasher, to mention a few—the tacker will be offered for general sale to the textile industry.

Why? Harold Walter of Bachmann Uxbridge expressed the sentiment of all progressive mill men in his statement that whatever is good for the industry is good for his mills. The men operating these mills can think in terms of the industry as a whole. They recognize that there are two kinds of competition—inter-industry and intra-industry.

There are also many other mills in which technical progress is showing—and some in which it is suspected or taken for granted. The textile industry owes a debt of gratitude to those mills which have contributed to the technical progress of textiles in their competition with all the other products that vie for the consumer's dollar. In giving credit to mills for their technical advancement, we are mindful, of course, of the invaluable contributions by suppliers to the textile industry. Most suppliers have the one thing many mills lack: a definite organization to develop technological improvements. Much of the advanced state of our industry is due to materials and equipment developed by suppliers.

We are especially impressed by the many instances in which mills and suppliers have worked together for the good of the whole industry as well as for the benefit of the individual companies originally involved. In one instance, a mill made over 60 suggestions in the development of a new machine. Shortly, that machine, with improvements, will be in many mills to help them put out a top-quality product at a lower cost than heretofore.

There is no logical substitute for cooperation between mills and their suppliers. Obviously, only those developments which mills use are of benefit to the industry. New ideas which are not worked out are only slightly worse than developed ideas which are tightly restricted. We are thinking here in terms of the industry as a whole.

Some balance or division must be made between technological improvements that are restricted to the benefit of a small group and those that the industry as a whole might share. The Institute of Textile Technology apparently believes that two years is the basic time in which one group should have exclusive benefits from an institute development; U. S. patent laws indicate 17 years—but, as far as patents are concerned, there is strong sentiment that they should be used, and possibly licensed equitably, or forfeited.

There are some things, of course, that cannot be shared, such as good management, the desire constantly to improve, or developments peculiar to a particular setup. Basic information cannot be kept from being shared, but application to the production of a particular textile is bound to be colored by the ability of individual organizations.

It is generally true that by the time one mill copies the developments of another, the originator has progressed still further and continues out in front. We have no choice but to assume that textiles will continually be progressing. Any producer who does not improve is, in effect, retrogressing and should be prepared to go out of business. Any leader can well let his progress be known—in a short time the whole industry will, inevitably, reach the level he has attained. He may as well take the credit he deserves for a contribution and at the same time reap those benefits which come to all with every step the industry takes forward.

What are you doing?

C. H. Bendigo

It's new...

RHOADS TANNATE-ROCKWOOD LOOM DRIVE

The new Rhoads TANNATE-ROCKWOOD Loom Drive consists of:

- A new double pivoted motor base
- A motor pulley
- A TANNATE motor belt
- Two intermediate shaft pulleys
- An intermediate shaft, and
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It has the following qualities:

- It's quieter; assures less shock and vibration; permits the easy change of loom speed; and, provides maximum production through constant belt tension. Write for details.

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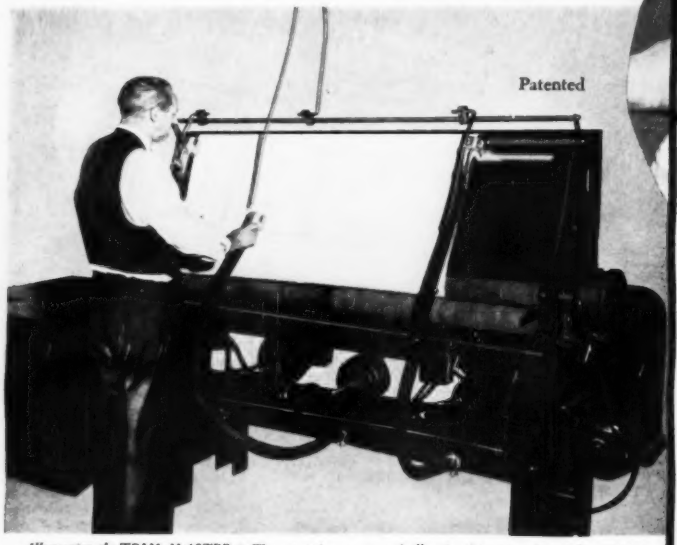
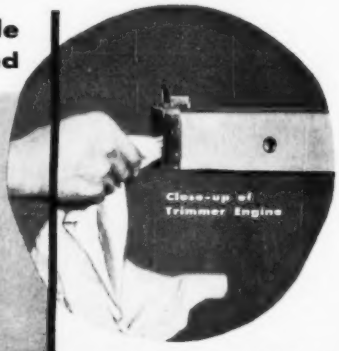


Illustrating the TRIM-MASTER 3-Way operation — automatically trimming, measuring, and examining



TRIM MASTER

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Standard TRIM-MASTER set-up for sewn garments

Four TRIM-MASTER Features

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Fixed Trimmer Engines on selvage ends automatically find, clip, and remove loose end threads as goods wind or rewind. Flexible center Trimmer Engine cleans imperfections on fabric face.

2. Speeds Production

TRIM-MASTER'S three way function automatically trims as it examines and measures, combining three time-consuming operations into one.

3. Improves Quality

Electrically operated concealed blades in Trimmer Engine assure snag and slash-proof operation . . . cannot damage material or miss loose end or clinging threads.

4. Keeps Department Clean

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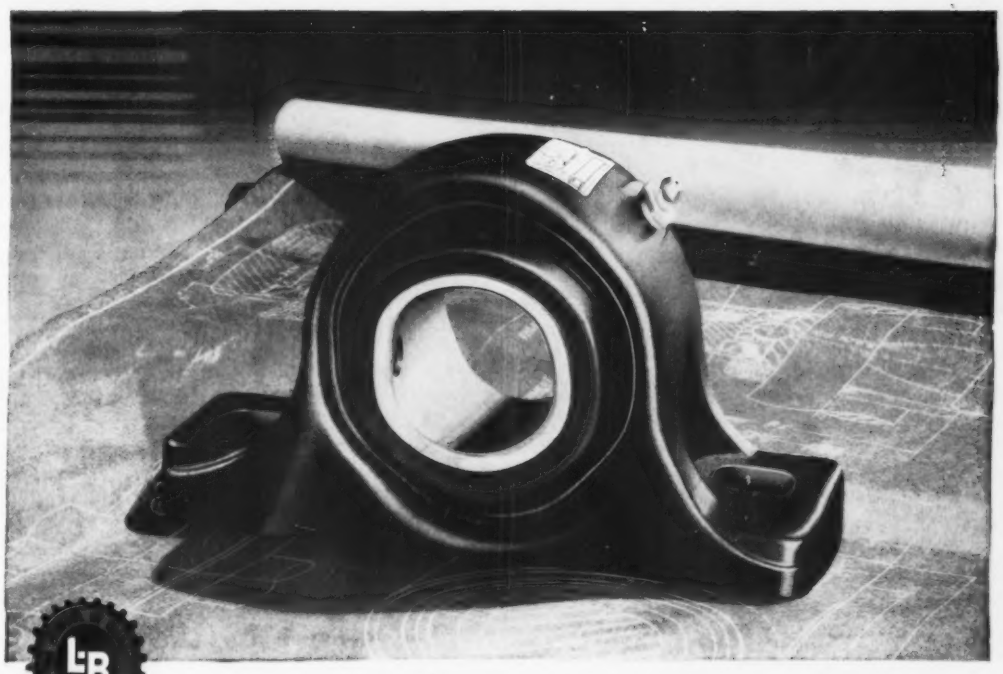

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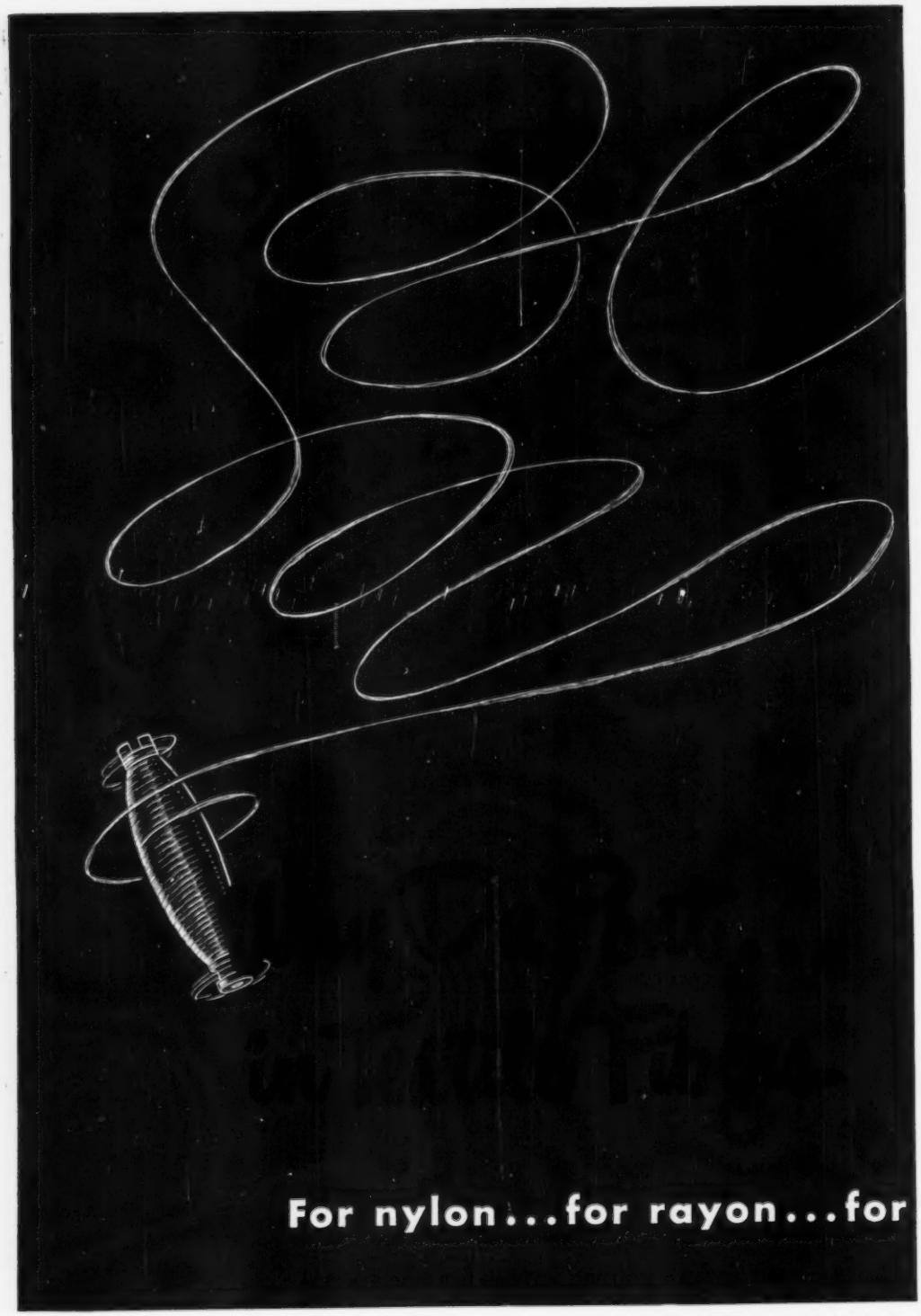
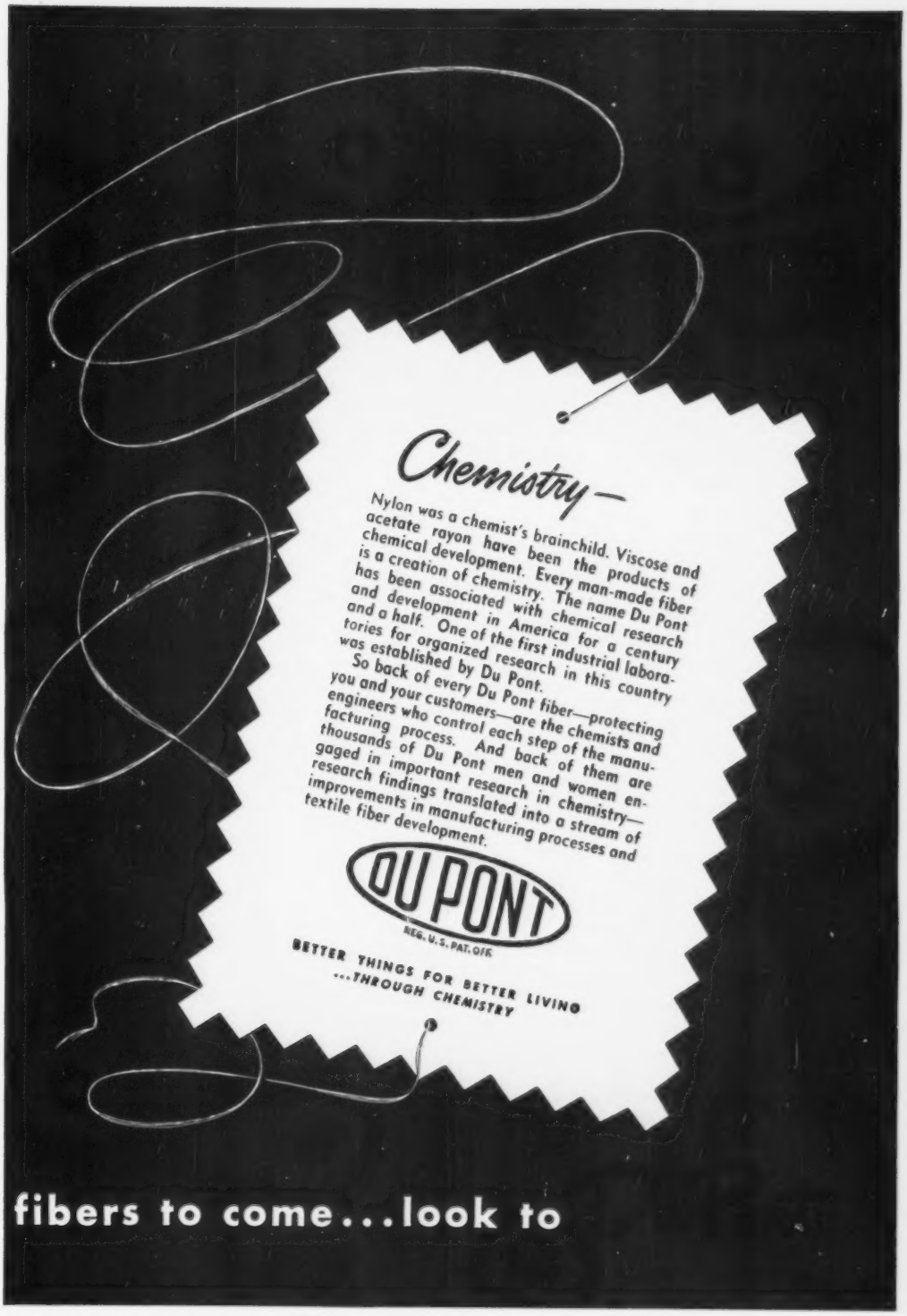

For nylon...for rayon...for


Chemistry—
Nylon was a chemist's brainchild. Viscose and acetate rayon have been the products of chemical development. Every man-made fiber is a creation of chemistry. The name Du Pont has been associated with chemical research and development in America for a century and a half. One of the first industrial laboratories for organized research in this country was established by Du Pont.
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fibers to come...look to

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THE NEW ERA SPINDLE

for old as well as new frames

ALTHOUGH 750,000 NEW ERA SPINDLES are in daily use, it is only recently that manufacturing facilities make it possible to offer this spindle in unrestricted quantities. This completely new spindle is

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It's the only basic change in conventional spindle design—the world over—since the Sawyer spindle was patented in 1871.

The SACO-LOWELL New Era Spindle blade is stationary! The yarn carrier, supported by two heavy duty, high precision anti-friction ball bearings, is the *only revolving member.* The ball bearings were specially designed for this spindle by the New Departure Division of General Motors.

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6. Clean spindle rail, free from oil, lint, and smudge.
7. High load-carrying ability at top speeds.
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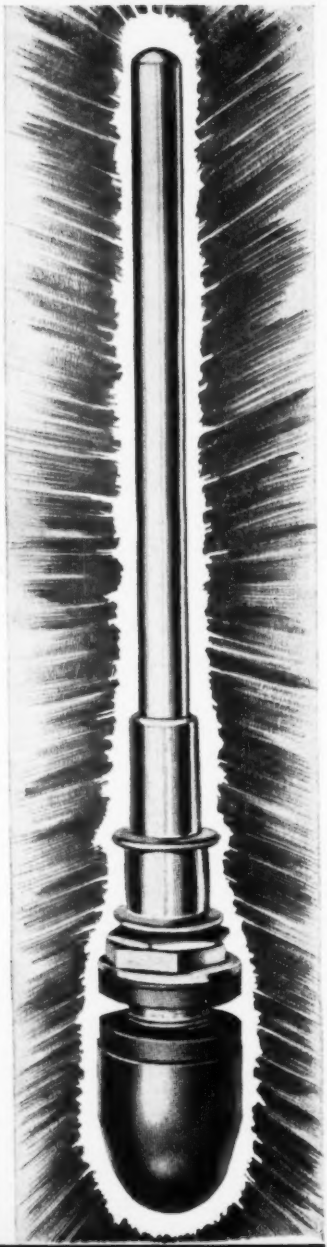

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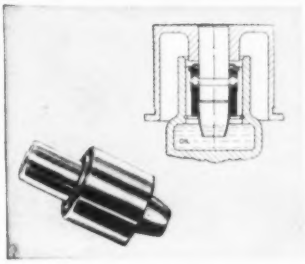
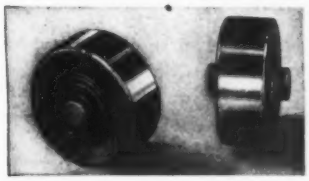
TENSION PULLEY BEARINGS

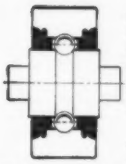


Designed for the vertical mounting of idler or tension pulleys for speeds above 1000 r.p.m. Instead of the conventional bearing inner race, a solid steel shaft extends upward enough to provide a seat for the pulley hub. To the lower end of this shaft is fitted a centrifugal pump which lifts a continuous film of oil from a reservoir and delivers it in the form of a fine spray or mist directly to the balls and raceways. The lubricant circulates but does not escape nor become contaminated with foreign matter.

For further details, ask for Bulletin A-287.

DRAPER TREADLE ROLL BEARINGS





Developed by New Departure especially for cam rollers in textile looms, in cooperation with engineers of the Draper Corporation, Hopedale, Mass.

Made with solid high carbon chrome steel races, heavily proportioned to absorb shock, self-sealed against dirt or lint and lubricated for long life, these "new departures" by New Departure practically eliminate shutdowns for roll replacements.

Field results show that cam life is considerably increased.

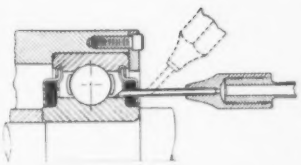
For further details, ask for Bulletin A-231.

NEW DEPARTURE BALL BEARINGS

Distributors in the South:

Atlanta, Chears Bearing Co., Moffatt Bearing Co.
Birmingham, Moffatt Bearing Co. Owens-Richard Co.
Charlotte, Moffatt Bearings Co.
Chattanooga, Fischer Bearing Co.
Knoxville, Fischer Bearing Co. Tennessee Bearings, Inc.
Memphis, Southern Bearings Service
Nashville, Fischer Bearing Co.
Richmond, Moffatt Bearings Co. Richmond Auto Parts Co., Inc.

INJECTOR SEAL BEARINGS

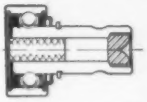


This bearing features a new seal developed for use with the popular ND Seal bearings in the standard and light series sizes. Small holes in the outer metal of the seal permit revitalizing the old bearing lubricant at intervals commensurate with operating conditions, by means of injection needles.

Lubrication method does not require removal of the bearing from the housing. Neither does it involve the use of nipples, grease passages, plugs or removable seals.

Full details describing this "new departure" given in pamphlet A-173.

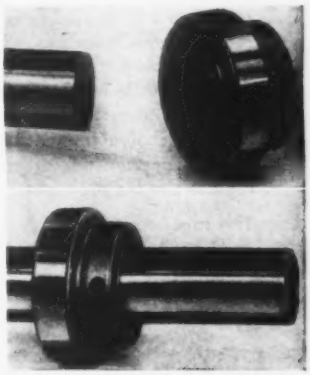
TAPE TENSION PULLEY BEARING



Designed for horizontal mounting of textile tape tension pulleys. Recommended for practically any installation where a pulley or a roll must give uninterrupted service with minimum attention. A few drops of oil once or twice a year fed into hollow shaft, leads through filter to sealed area around ball assembly, and revitalizes original grease.

For details, ask for Bulletin A-306.

ADAPTER BEARINGS



The New Departure Adapter bearing, Type-A, is intended primarily for use with standard cold drawn steel shafting to inch dimensions, where bearing locating shoulders and threads for locknuts are undesirable. Where a slight amount of eccentricity is permissible, they eliminate the need for grinding bearing seats to close tolerances for press fits.

For further details, ask for Bulletin A-288.

KOHORN

Latin America's Largest

Filament Rayon and Staple Fiber Plant *Starts Production* . . . . . .

Long a producer of rayon, Companhia Nitro Quimica Brasileira of Sao Paulo, Brazil, now possesses one of the world's largest and most modern rayon plants. The new plant was designed and built by KOHORN. It is equipped with KOHORN machinery and employs special KOHORN chemical processes. Now under KOHORN technical management the plant is producing superior viscose rayon that will soon replace the old product.

The mammoth size of this KOHORN project can be seen by the fact that the main building in the foreground of the illustration covers more than seven acres. KOHORN's world-wide experience lessened difficulties wrought by the sub-tropical climate and rainy seasons.

This great project is one of many KOHORN has built in a record unequalled in the establishment of complete rayon plants and the building of rayon machinery. To you who are now planning to become rayon manufacturers, an all-inclusive contract with us, *in which we assume complete responsibility for the entire project*, is assurance of success for your plans.

COMPLETE PLANTS for Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months

OSCAR KOHORN & CO., LTD.

EXECUTIVE OFFICES

501 FIFTH AVE. NEW YORK 17, N. Y., U. S. A.

Pioneers of the Rayon Industry

Who

SET THE STANDARD FOR DETERGENT POTENCY?

Nacconol NR

AMERICA'S LEADING SYNTHETIC DETERGENT

WITH MINIMUM 40% active organic content GUARANTEED

WASHES • WETS • DISPERSES • FOAMS • EMULSIFIES IN HOT OR COLD SOLUTIONS AT ANY pH

COSTS LESS • DOES MORE

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Providence, R. I., 15 Westminster St.	Dexter 3060	Atlanta 3, Ga., 140 Peachtree St.	Cypress 2821
Chicago 10, Ill., 357 West Erie St.	Superior 7-0587	Chattanooga 2, Tenn., James Building	Chattanooga 4-6347
Philadelphia 6, Pa., 200-204 S. Front St.	LOmbard 3-6382	New Orleans, La., Cotton Exchange Bldg.	Raymond 7220
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*Reg. U. S. Pat. Off.

SPARE PARTS • • •

Have you checked yours?

Your machinery must be kept running in order to get a full return on your investment. An under stocked supply room is poor use of this capital investment and allows for the loss of production and increased costs.

Maintaining an adequate supply of repair and replacement parts for your machines is the best insurance you can have against lost profits due to idle machinery. This means that parts and supplies—the right ones—are on hand when they are needed.

Your parts inventory need not be top heavy in order to be adequate. Your past experience should enable you to anticipate what your future needs may be. DAVIS & FURBER recommends that you make a thorough study of your situation and order the parts you will need before they are needed.

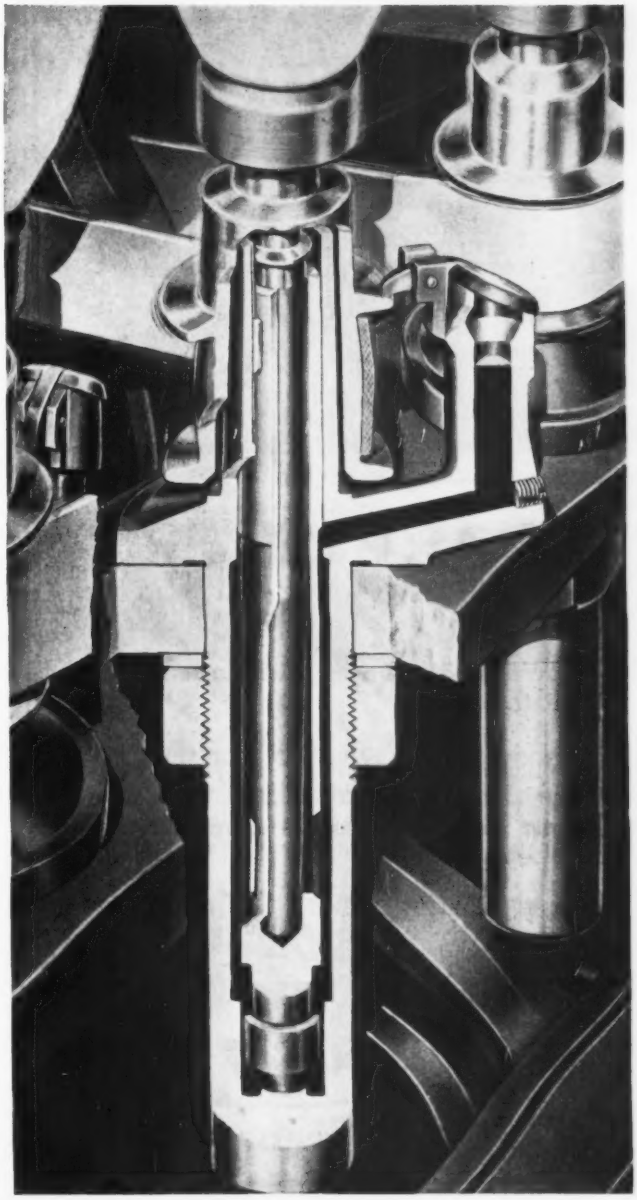
Naturally DAVIS & FURBER parts are the best for machines of our make. They are made from the same patterns used to make the original parts. Consequently, no time is lost in making make shift repairs. Genuine DAVIS & FURBER parts will fit!

Check them now

Davis & Furber Machine Co.

SINCE 1832 NORTH ANDOVER, MASS.

How Much Drag Have You Got on Your Spindles?



The Right Oil
Will Solve this Problem,
Help You Save Power!

A little drag here . . . on your spindles . . . caused by lubricating oils that thicken and gum up . . . will go a long way toward running up your power bills.

Quick-acting Gargoyle Velocite Oils are licking this problem in many mills. Exceptionally stable, they resist thickening, keep spindles spinning freely.

At the same time, these proved spindle lubricants adhere tenaciously to the metal, stay put despite the terrific speeds, protect against wear and dampen vibration.

Your spindles stay clean and wear longer. You make important savings in power costs and maintenance time and expense.

SOCONY-VACUUM

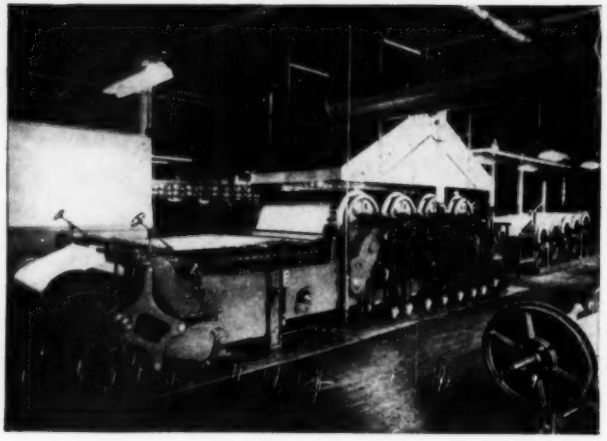
GARGOYLE Lubricants

Rely on

SOCONY-VACUUM
CORRECT LUBRICATION

SOCONY-VACUUM OIL COMPANY, INC. and Affiliates:
MAGNOLIA PETROLEUM COMPANY
GENERAL PETROLEUM CORPORATION

For Unbroken Continuity of Service



JOHNSON WARP SIZERS

—are known and used by efficient mills throughout the world.

They're good for long years of continuous, trouble-free sizing of delicate warps, with few broken ends and an absolute minimum of parts replacements.

The ultimate in sizer design.

Charles B. Johnson

PATERSON NEW JERSEY

SANDOZ PRESENTS *The color achievement of the month*

Perfect Match BY THE SHELTON LOOMS

So certain is The Shelton Looms of the fidelity of its Matched Kleersheen Colors that it makes this statement: "You're sure of a perfect color match in any combination of fabrics by The Shelton Looms."

In so doing, the mill expresses confidence not only in a "revolutionary process obtainable exclusively in pile fabrics by The Shelton Looms", but also in the ability of Sandoz to provide colors that are proven-fast and service-fast.

Among the Sandoz colors which find wide use on pile fabrics are

Azo Rubinole 3GP
Xylene Fast Yellow 2GP
Brilliant Alizarine Sky Blue BS
Brilliant Alizarine Milling Blue G
Alizarine Light Brown BL
Alizarine Light Grey RLL

a series of colors especially adapted for use on Mohair where long continued customer-use requires dyes of extreme fastness to light, perspiration and crocking.

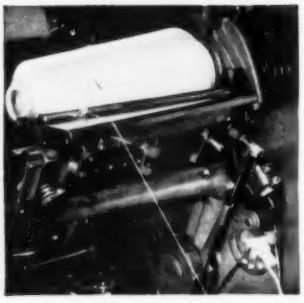
And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. • Other branches at Providence and Paterson.

SANDOZ *thinks ahead with textiles*

Its "Alarm Clock" is as gentle as it is accurate

...to protect the quality and insure the uniformity of Universal *"PreciseWind"* Cones



No. 50 Positive Sizing Attachment

You can attribute the world-wide preference for the Universal method of precise-winding to many things — and one of them is its adaptability to a great variety of winding requirements.

Where absolute uniformity of packages is desired, the machine is equipped with the Positive Sizing Attachment which is so accurate that it will knock off the spindle within one layer of the predetermined size.

This is accomplished without exerting *any pressure on the package* itself.

The accuracy of the attachment is such that should the machine be left unattended, the spindle can be depended upon to knock off automatically when the package reaches full size.

The Positive Sizing Attachment can be installed on any No. 50 machine now operating and will accommodate any type of yarn.

UNIVERSAL WINDING COMPANY

P. O. Box 1089 • Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles
Montreal, Hamilton, Canada; Manchester, England
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Agents in every principal textile center throughout the world

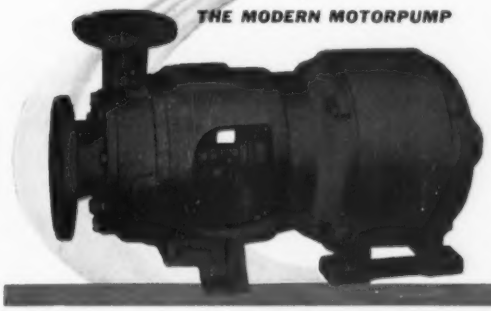
WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

Universal Precision Winding USED FOR MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES

Let's get down to Pump *Fundamentals*

CENTRIFUGAL FORCE

PUMP IMPELLER



THE MODERN MOTORPUMP

EVER swing a small pail of water in a vertical circle? Never spilled a drop did you? Naturally, you know that centrifugal force kept the water in the pail by forcing it against the bottom of the pail. Had there been small holes in the bottom of the pail the water would have been forced through with considerable velocity.

Basically a centrifugal pump uses this principle. Liquid enters the eye of the impeller and is forced by centrifugal action through small volutes which increase in size to the perimeter of the impeller developing pressure. This pressure is the moving force of the liquid.

The outstanding modern centrifugal pump is the Ingersoll-Rand MOTORPUMP. Its carefully designed and precision manufactured impeller and component pump parts gives top performance and reliability.

Look at the scope of just this one line of Ingersoll-Rand pumps, each a compact, self-contained unit with a built-in motor. From the many sizes and types of motorpumps you can select a unit from ¼ to 40 horsepower . . . 10 to 1800 gallons per minute - - - for heads to 600 feet . . . single and multi-stage. I-R Factory trained sales representatives across the nation will gladly help you with your present and future pumping problems. Prompt deliveries can be made from factory and branch stocks. Ask for catalogue No. 7093-A, which gives the complete story on Motorpumps.

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y. 356-9

Now-pennies put glamour in your wife's workshop!

Marvalon, made by the Montsing Company, Chicago

TRUST the little woman to pretty-up the place she spends a lot of time in. Trust her, too, to discover a material for her kitchen that's high in glamour, low in cost and has dozens of uses.

That's why she chooses Marvalon, the amazing new decorative material that can be used for shelving and table covers as shown in the picture of the glamourized kitchen. It is made from reinforced cellulose fibre and coated with Geon polyvinyl chloride resin.

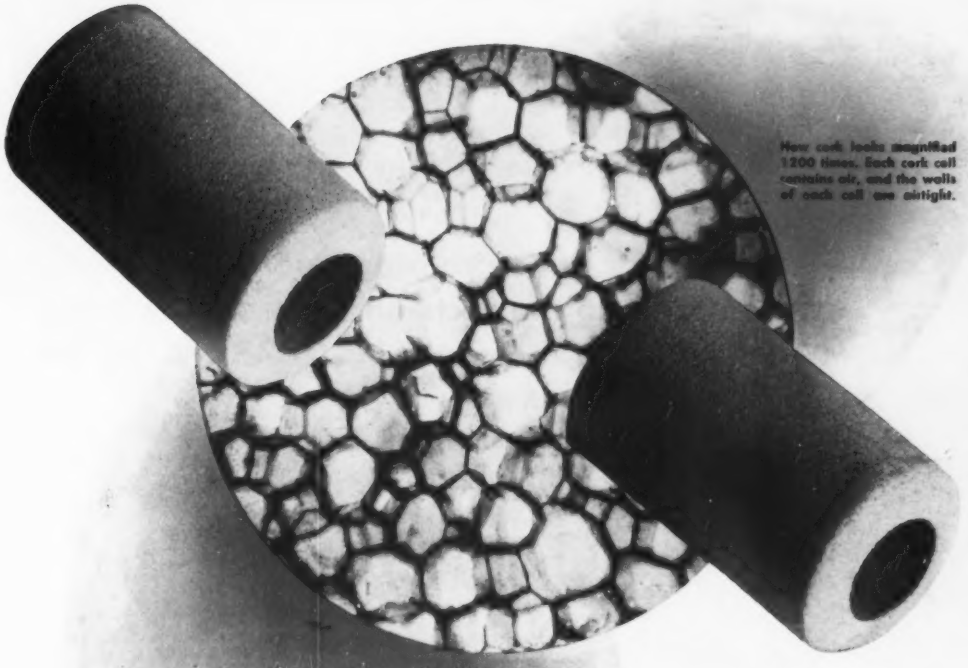
The novel idea of coating reinforced cellulose fibres with Geon gives Marvalon its amazing range of qualities that make it so useful. It won't crack, peel or fray. It is stain resistant, odorless and so easily washable—tough enough for wall covers. The skillful use of Geon in this new development opens up possibilities for new products and improvements in others. Perhaps it will give you an idea. If so, tell us and we will send you information on how Geon polyvinyl materials might be used for your product.

Remember, we make no finished products from any of the raw materials we manufacture. We invite you, however, to take advantage of our technical service for any problems or special applications you may have in mind. Write to B. F. Goodrich Chemical Company, Dept. L-1, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ont.

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

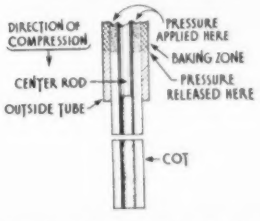
GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals



How cork looks magnified 1200 times. Each cork cell contains air, and the walls of each cell are airtight.

Why Armstrong's Cork Cots spin strong, uniform yarn

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Extruded Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each gives you even, strong yarn.

Armstrong's Cork Cots spin strong, uniform yarn because their surface is composed of millions of tiny cork cells. These cells act like small suction cups, firmly gripping the fibers as they pass between the rolls of roving or spinning frames.

Cork's high coefficient of friction eliminates eyebrowing, too. Loose fibers are deposited well back on the clearers. And there's cleaner running work, less clearer picking because Armstrong's Cork Cots reduce clearer waste as much as 50%.

Each air-filled cork cell is compressible and acts like a self-contained spring. Hence, Armstrong's Cork Cots are more resilient. They recover quickly from laps and hard ends.

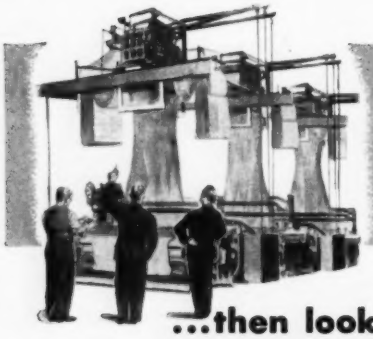
Ask your Armstrong representative for complete information. Or write Armstrong Cork Company, Textile Products Dept., 8302 Arch St., Lancaster, Pa. Available for export.

ACCOTEX IS A REGISTERED TRADE-MARK.

Better running work . . . more poundage

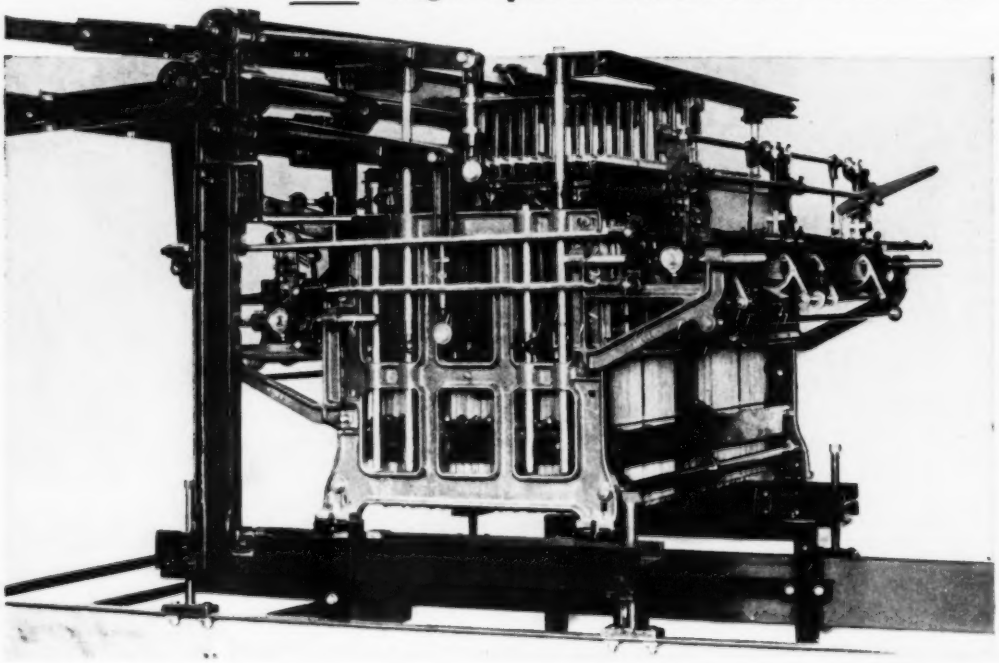
ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS



Look Up and See

what your Jacquards are doing!
...then look up the facts on HOW MUCH MORE
C&K's NEW High-Speed JACQUARD CAN DO



Do you have single-cylinder jacquards over your looms?

Do you know how often your looms are stopped?

Do you know how much loom-fixing you're paying for—*unnecessarily?*

Do you know how much you can gain in speed of operation—in scope of design—in flawlessness of weaving—by *replacing your present jacquards with C&K's new high-speed jacquard?*

This new C&K Jacquard—the *only* double-cylinder machine with independent cylinder drive—opens up new profit-opportunities in the production of new and more elaborate designs in upholsteries, draperies, table damask, bedspreads, terry towels, bath mats, dress goods, linings, blankets, quilts, and narrow fabrics. Now, for the first time, there is no restriction at all on the designer's creative ability—no limit to speed range, high or low.

C&K invites you—and the top jacquard men in your mill—to investigate *immediately* the mechanical and money-making advantages of these new high-speed C&K Jacquards.

How many copies would you like of C&K's new illustrated Jacquard Bulletin, just off the press? They're ready to be sent to you by return mail.

This "Invisible Trademark" Stands Behind the Trademarks of Many of the World's Most Famous Jacquard Fabrics

Crompton & Knowles Jacquard & Supply Co.
PAWTUCKET, RHODE ISLAND, U. S. A.
SUBSIDIARY OF CROMPTON & KNOWLES LOOM WORKS, WORCESTER 1, MASSACHUSETTS
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

CORROSION COSTS

$6,000,000,000.00 ANNUALLY!

No industry escapes... how much do you pay?

Save needless waste

In one form or another acids, alkalis, salts, gases and atmospheric conditions cause corrosion damage. In every industry losses are prevalent – losses in time, materials and equipment, much of which could have been avoided. Minimize your risk – do these two things now –

1 – Check up on your costs;

2 – Provide adequate protection for danger points.

Experienced and competent Amercoat engineers are available to help you on both. They'll check up on your costs, which may be greater than you know because the effects of corrosion are often hidden. They'll report on conditions as they find them. They'll recommend steps to take if greater protection can be provided and money saved. Inquiries from interested executives will receive prompt attention. There's no obligation – write today.

AMERCOAT DIVISION
AMERICAN PIPE AND CONSTRUCTION CO.
Dept. IT, 4809 Firestone Blvd., South Gate, Calif.

FOLLOW THE LINE OF *most* RESISTANCE

EXAMPLE OF NEEDLESS LOSS — This 6" valve has been exposed to atmospheric conditions, near the sea-coast. Improperly coated, it was ruined in a short time.

A SYSTEM OF SURFACE PROTECTION

If you are a PRODUCER of

Knitting Machinery
Dyeing Machinery
Drying Machinery
Winding Machinery
Throwing Machinery
Sewing Machinery
Preboarding Machinery
Hosiery Repair Machinery
Inspection Equipment
Building Equipment
Boxing and Packing Supplies
Air Conditioning Equipment
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Testing Equipment
Office Equipment
Yarns of All Kinds
Chemicals, Oils and Soaps
Mill Supplies and Allied Products

You will want to MEET and SELL

Company Executives
Mill Officials
Sales Managers
Financial Representatives
Purchasing Agents
Key Men in All Branches

AT THE

39th KNITTING ARTS EXHIBITION

APRIL 25 thru 29, 1949

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NATIONAL ASSOCIATION OF HOSIERY MANUFACTURERS

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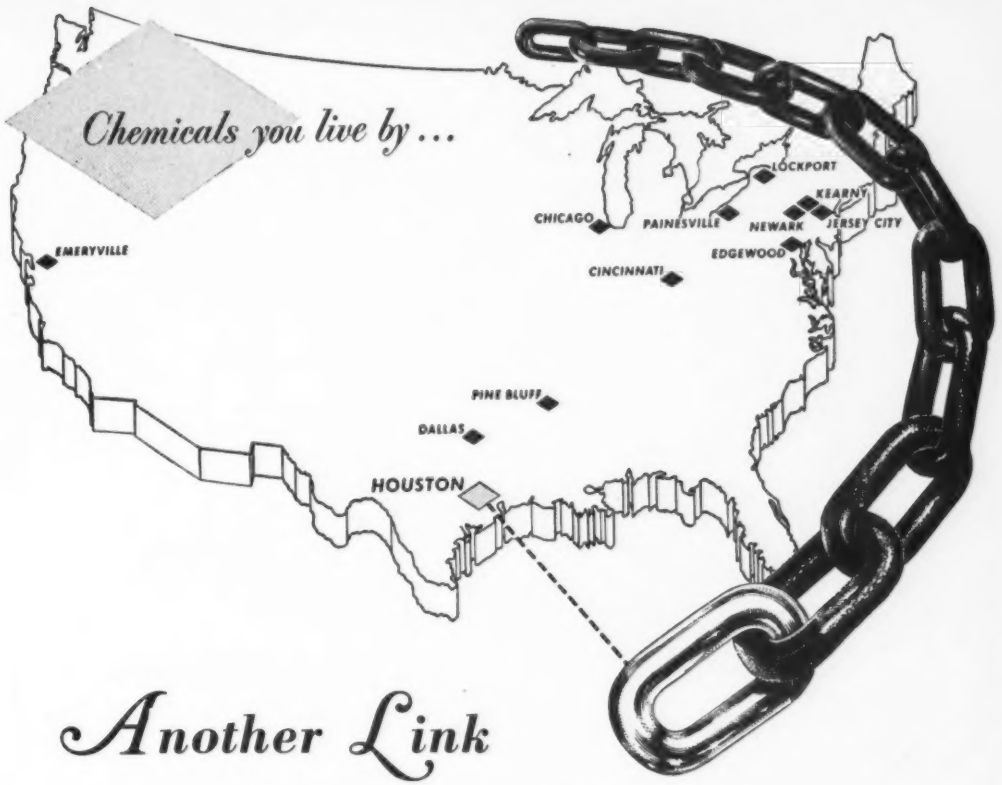


Another Link

. . . in Diamond's chain of plants to serve the textile industry better

Add Houston, Texas to your list of sources for chlorine and caustic soda. Diamond Alkali's newest plant, now in operation there, gives the textile industry a greater and more flexible supply of these basic chemicals.

This is the newest link in Diamond Alkali's expanding chain of producing centers paralleling the country's industrial development. It is the 12th Diamond plant—and the fourth to produce both chlorine and caustic soda.

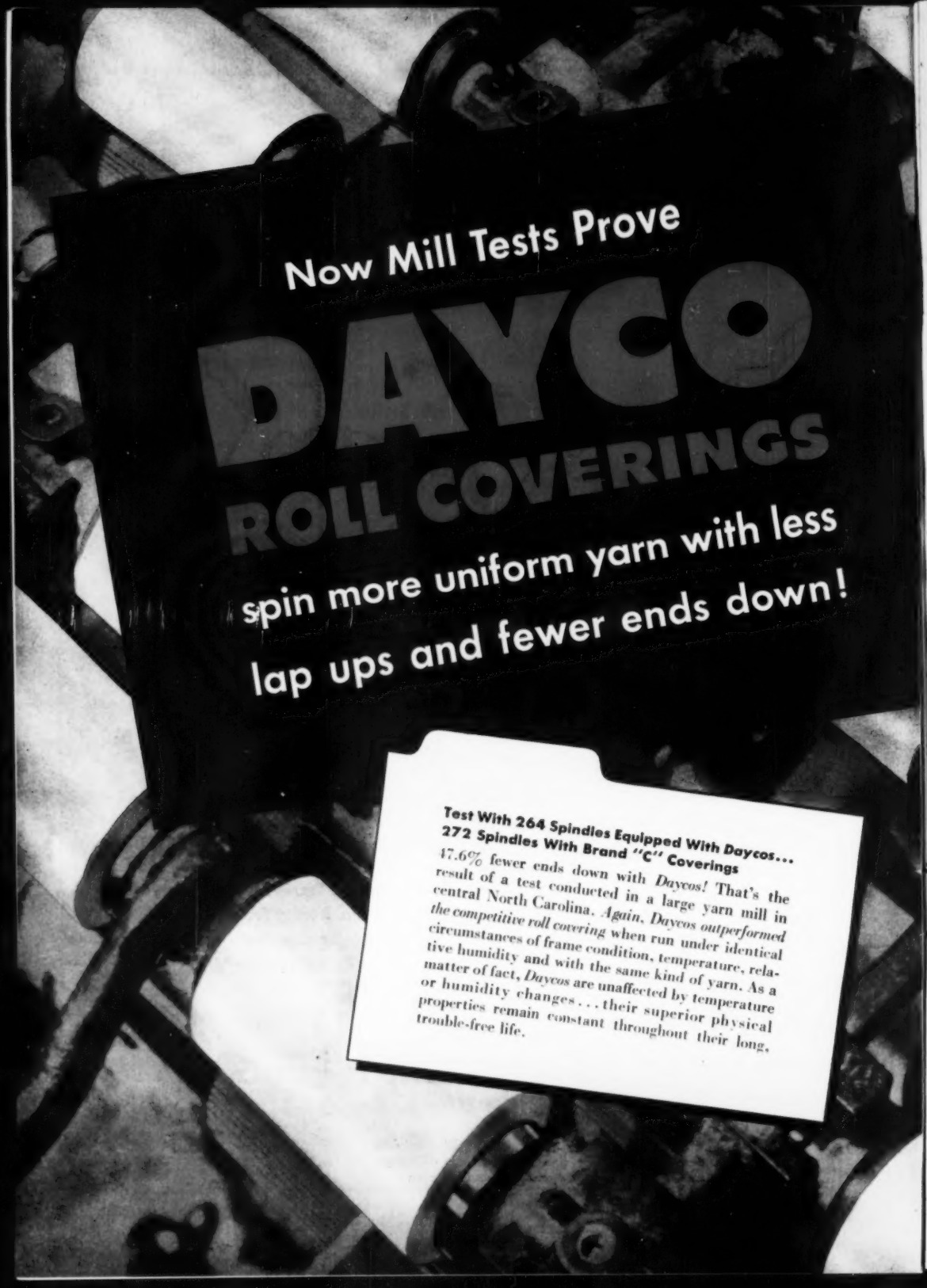
Other Diamond products for the textile industry include chlorowax, carbon tetrachloride, bicarbonate of soda, soda ash and silicate of soda. Back of them is an aggressive research organization.

If you are looking for a dependable source of supply for these products, or have a chemical problem in your business, we welcome your correspondence.

DIAMOND ALKALI COMPANY
Cleveland 14, Ohio

Diamond Sales Offices in Boston • New York • Philadelphia
Pittsburgh • Cleveland • Cincinnati • Memphis • Chicago
St. Louis • Wichita • Oklahoma City and Houston

DIAMOND ALKALI CHEMICALS


Now Mill Tests Prove
DAYCO
ROLL COVERINGS
spin more uniform yarn with less
lap ups and fewer ends down!
Test With 264 Spindles Equipped With Daycos...
272 Spindles With Brand "C" Coverings
47.6% fewer ends down with Daycos! That's the result of a test conducted in a large yarn mill in central North Carolina. Again, Daycos outperformed the competitive roll covering when run under identical circumstances of frame condition, temperature, relative humidity and with the same kind of yarn. As a matter of fact, Daycos are unaffected by temperature or humidity changes . . . their superior physical properties remain constant throughout their long, trouble-free life.

Test of 1,134 Spindles...Covering 13,261 Sp. Hrs.

Dayco Roll Coverings showed fewer lap ups on top and bottom rolls and 11.7% less unclassified ends down. Actually, there were three times more lap ups on the bottom rolls where Brand "A" roll coverings were used—although all the steel rolls had just been reworked and were in top operating condition. This is on-the-job proof that, in test after test, under actual operating conditions, in mill after mill, *Daycos* run more uniform yarn with up to 50% fewer ends down.

North Carolina Mills Test 35.4% Less Ends Down With Dayco Roll Coverings

This test was run on frames making 24.1/65% cotton and 35% acetate staple. Despite the fact that the *Dayco*-equipped frame was next to the window, the *Dayco Roll Coverings outperformed a similar type covering on lapping, unclassified ends down and total ends down.* Too, the *Dayco* coverings did not eyebrow while Brand "B" coverings eyebrowed greatly. Another typical example of how *Daycos*, built for their specific job, assure perfect drafting uniformity . . . at the lowest cost per frame.

7 MORE REASONS
WHY YOU SHOULD USE DAYCOS

1. Remove more of the foreign elements from the yarn.
2. Not affected by temperature or humidity changes.
3. Oil-resistant and static-free.
4. *Daycos'* surface drafting properties improve with use.
5. *Daycos* will outlast other type roll coverings.
6. Equally efficient for natural and synthetic fibers.
7. Easy to apply.

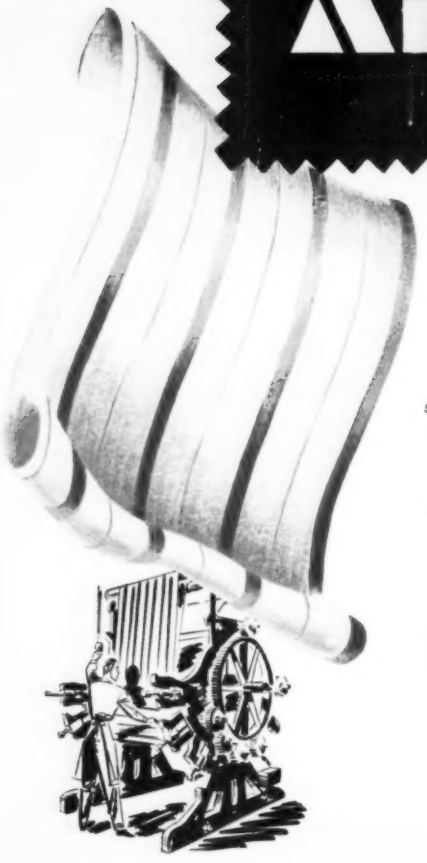
In mill after mill . . . test after test . . . under actual mill operating conditions, it's the *Dayco* frames that consistently produce the most uniform yarn at the lowest cost per frame. It's no wonder mills everywhere are insisting that every frame be 100% *Dayco*-equipped. Whether your frames are equipped with flat or revolving clearers, there's a specially engineered *Dayco* to run natural or synthetic fibers . . . better, more economically. Let them prove themselves on your frames. Send your order direct to The Dayton Rubber Company, *Textile Products Division, Woodside Building, Greenville, S. C.*

Dayton Rubber

THE NAME OF TECHNICAL LEADERSHIP IN RUBBER AND SYNTHETIC FABRICS

CONTRIBUTIONS TO THE PROGRESS OF TEXTILE COLORING

Aridye *Pigment Colors*



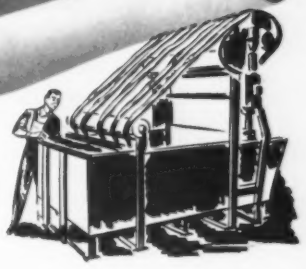
The development of *Aridye*® *Pigment Colors* has proved to be one of the most important advances in the art of textile printing within the past half century. Introduction of these colors late in 1937 made it possible for the first time to produce pigment-printed fabrics which will withstand repeated washing or laundering without change of shade.

Aridye Pigment Colors for application by the water-in-oil emulsion system have many advantages over conventional dyes. They provide *sharpness of mark, brilliancy of shade, excellent all-round fastness, ease and economy of operation, no impairment of hand.* Aridye Pigment Colors as printed are *final in shade*—permitting defects to be detected and corrected immediately and eliminating the necessity for ageing and soaping. These are some of the reasons why leading printers are using Aridye Pigment Colors for solving some of their most difficult problems and for everyday jobs as well.

The importance of the pigmented water-in-oil emulsion system is indicated by the fact that during the last 10 years it has been employed for printing over 2,000,000,000 yards of cotton, rayon, and other fabrics.

Other types of Aridye Pigment Colors have been developed for printing and dyeing textiles by the oil-in-water emulsion system, the solvent dispersion system, and the aqueous dispersion system.

Interchem



Of the various classes of dyes made by the Textile Colors Division of Interchemical Corporation, *Interchem® Acetate Dyes* for application to acetate rayon and nylon are the best known. Dyers of such fabrics report that with Interchem Acetate Dyes they have *fewer seconds and fewer redyes.*

Because Interchem Acetate Dyes are colloidized during manufacture, they disperse rapidly and thoroughly when pasted with warm water, leaving no undispersed particles. *Therefore the danger of dye specks is virtually eliminated.* They are suitable for dyeing on jigs or boxes. They are useful for producing self shades and compound shades.

Interchem Acetate Dyes promote level dyeing; give more consistent results from dye formulas, thus making possible better color-matching control. They have good pile on and do not tar at high temperatures. Many Interchem Acetate Dyes are suitable for application and/or discharge printing.

In addition to acetate dyes, selected dyes in other classes are produced for specific applications, particularly when fastness is a requirement. One of the latest additions is the custom-built Interchem Formaldehyde Black GDW, a rich, bloomy black which gives perfect white discharges on cotton and viscose rayon.

For complete information on these products which have contributed greatly to the progress of textile coloring, write to: Interchemical Corporation—Textile Colors Division, Box 357, Fair Lawn, New Jersey.

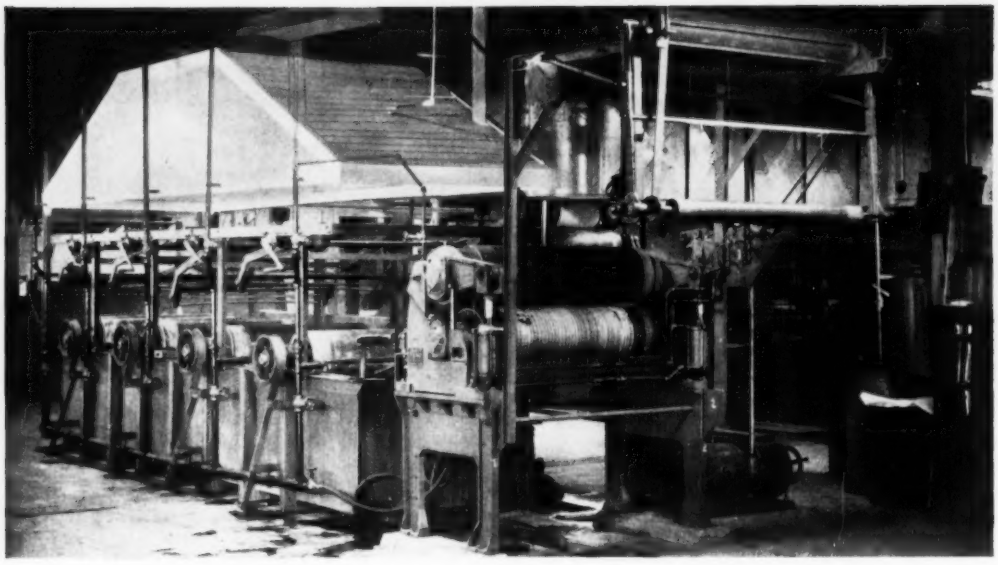
INTERCHEMICAL CORPORATION

TEXTILE COLORS DIVISION, FAIRLAWN, N. J.

ROCKHILL, S. C. • PROVIDENCE, R. I.

The Fleet Line

4-BEAM PROGRESSIVE JIG



A New York Bleachery Installation That Divides Work Time By Three!

This New York mill uses The Fleet Line 4-Beam Progressive Jig to boil off heavy cottons in open width. Collar cloth, gabardines, heavy drills, twills, ducks, etc., which would be permanently creased in a kier are processed in this machine. What's more, the machine does in 11 hours what the kier at this mill did in 36.

Here are some of the jig's important features:

1. Beams of larger diameter which hold twice as much fabric and are deeper in the bath at all times.
2. Counter-balanced rider roll on each beam with bow bars to keep the goods in open width as they roll on to the beam.
3. Improved entrance frame.
4. Increased heating coils to keep liquor very near the boil.
5. Squeeze rolls are heavy duty, air operated; squeezed out liquor returned to tank by drip pan under rolls.

Let us make recommendations on your wet finishing requirements.

RIGGS AND LOMBARD

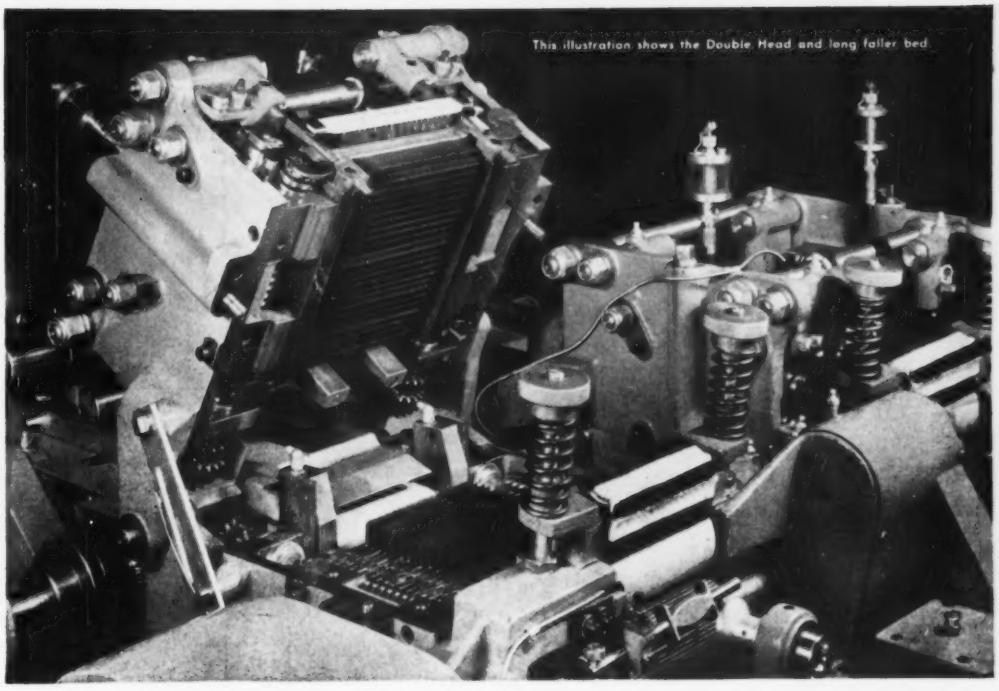
FOOT OF SUFFOLK STREET — LOWELL, MASSACHUSETTS

DOMESTIC AGENTS: Paul A. Merriam, 1491 Broad Street, Providence, R. I. • Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa. • Charles H. Dunker, 701 7th Street, Coronado, California.

EXPORT AGENTS: Latin America — Meyer, Lyra & Co., 228-229 Fulton St., N. Y., N. Y. • Balkan States, Egypt, Palestine, India — Arlind Corp., 509 Madison Ave., N. Y., N. Y. • South Africa — Noel P. Hunt Pty, Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

THE FLEET LINE OF FINISHING EQUIPMENT

CLOTH WASHERS, BATCH AND CONTINUOUS • FULLING MILLS • PIECE DYE KETTLES • DYE BECKS • ROPE SOAPERS
CLOTH CARBONIZING RANGES • SOAPING MACHINES • DERBY CONTINUOUS DRY CLEANERS • TENTER DRYERS
STOCK DYE KETTLES • ROLLS • MULTI-LAP CONTINUOUS PROCESS MACHINES • TOP DYEING MACHINES
CRUSHERS • REELS • PARTS



This illustration shows the Double Head and long faller bed

BEST TWO "HEADS" IN THE TEXTILE BUSINESS are on a WARNER & SWASEY Pin Drafter

DOUBLE-HEAD INTERSECTING

Both the Dual Delivery and Quad Delivery Pin Drafters made by Warner & Swasey have a Double Head, *full intersecting.*

● The unusual construction of the Pin Drafter head, makes possible the cleanness of drafted material. It also achieves perfect uniformity on either the smaller sliver obtained on the Quad Delivery Pin Drafter, or the larger sliver which is delivered from the Dual Delivery machine.

The Pin Drafter operates at 1030 drops per minute, or an entering feed of 9 yards per minute. 1000 grains per yard per head of entering sliver is the capacity of the Dual Delivery Pin Drafter and 800 grains per yard per head is the Quad Delivery machine's capacity.

Pin Drafters, precision engineered by Warner & Swasey either Quad Delivery or Dual Delivery models, offer opportunity for great improvement in quality and far greater delivery speed than ever previously thought possible on operations for which they have been designed. For a trial on your own material, write Warner & Swasey Co., Textile Division.

For Descriptive Booklets, Mail This Coupon Today!

WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

The Warner & Swasey Company
Textile Machinery Division, 5701 Carnegie Avenue
Cleveland 3, Ohio

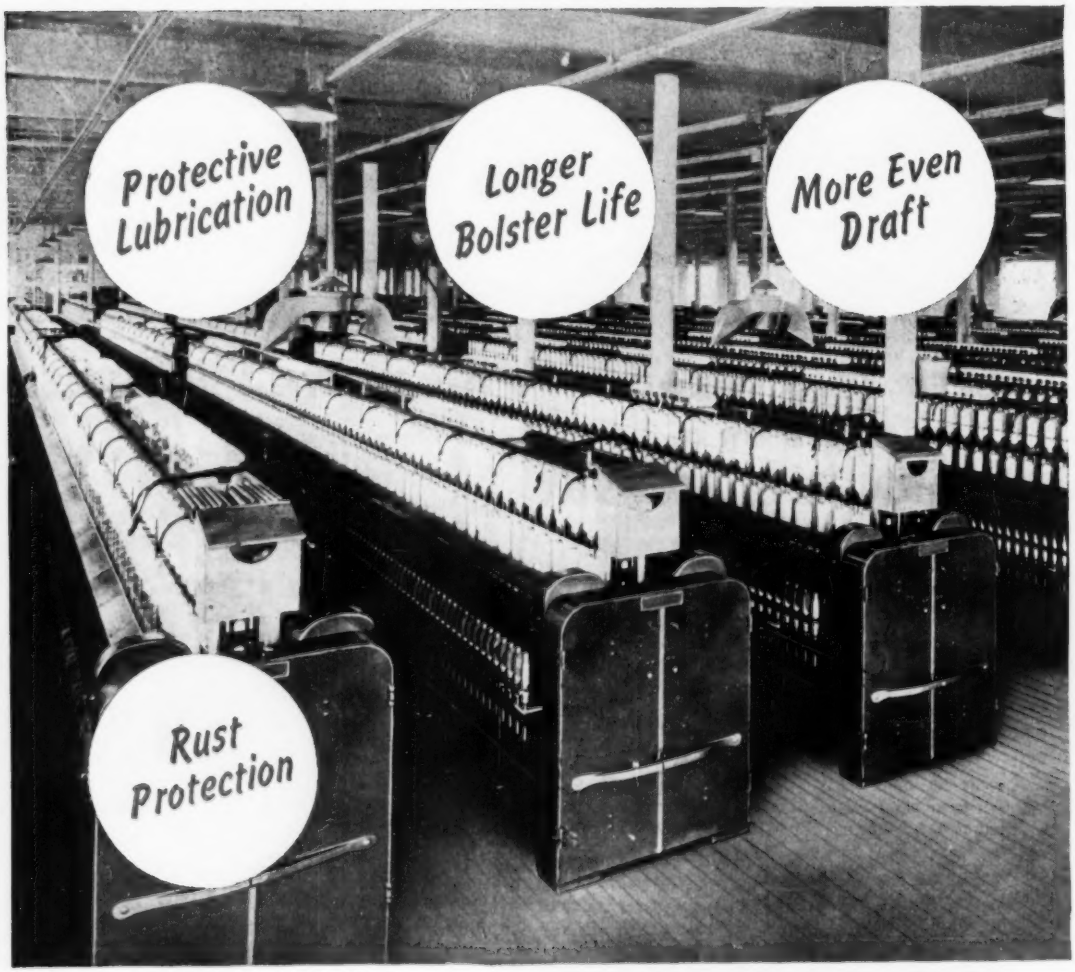
Yes, I would appreciate additional information about the Warner & Swasey Quad Delivery Pin Drafter , or Warner & Swasey Dual Delivery Pin Drafter (Check which)

Name ..... *Title* .....
Company .....
Address .....
City ..... *Zone* ..... *State* .....

D-219

You can do it better, faster, for less . . . with a Warner & Swasey

SINCLAIR LILY REDUCE



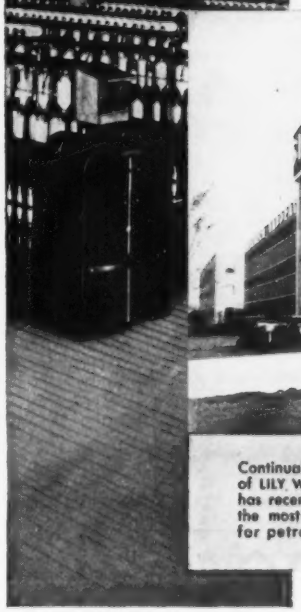
SINCLAIR

YOUR NEAREST SINCLAIR AGENT WILL GLADLY ARRANGE

WHITE OILS POWER COSTS

One of the major concerns in a textile mill is high power costs. Just a little friction drag on each spindle, multiplied in thousands and thousands of spindles, builds up the power load and power cost.

By the use of LILY WHITE Spindle Oils AX, BX and CX these high power costs can be kept down. These oils meet the modern demand imposed by heavier packages and higher speeds. LILY WHITE Oils provide improved lubrication that has resulted in reduction of wear up to two-thirds of previous experience. Less wear reflects less friction. Less friction means reduced power costs. LILY WHITE is a power-saving oil.

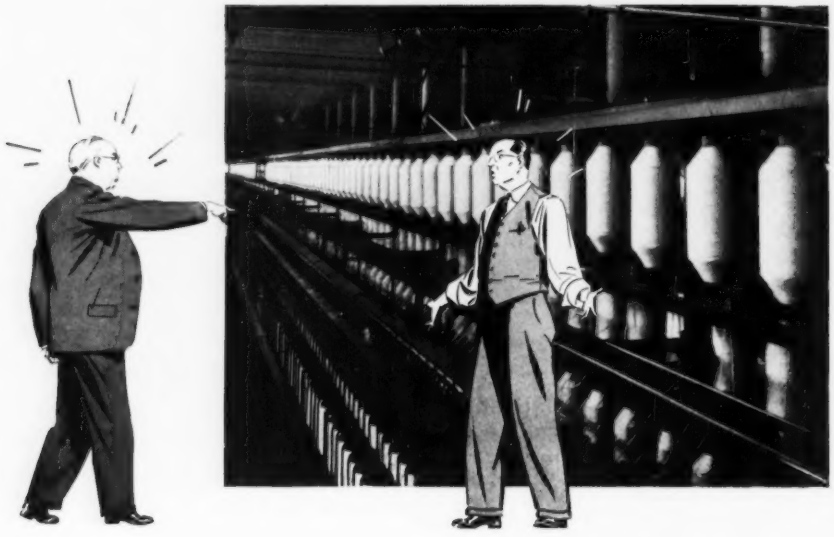


Continual research explains the high quality of LILY WHITE and other Sinclair Oils. Sinclair has recently completed at Harvey, Ill., one of the most modern and complete laboratories for petroleum research and development.

E. W. Isom, Sinclair Vice-President in Charge of Research says: "With the new facilities now made available to us at Harvey, Ill., we expect to find many ways to help industry cut costs through better petroleum products."

TEXTILE LUBRICANTS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N.Y.



When both **TRAVELERS** *and* **MANAGEMENT** *are* "POPPING OFF"... *here's the man to see*

If you are caught in that well-known "no man's land" . . . between bad-running spinning or twisting and a management that is pressing for better production and quality . . . the man for you to see is a Victor Service Engineer.

It's his job to keep abreast of the many new developments in synthetics and blends . . . developments which make it increasingly difficult for you to be sure the travelers you select are right.

The Victor Service Engineer can not only recommend the right traveler, but he can often make other valuable suggestions for improving yarn quality and production. And with the return of the buyer's market, now more than ever before you will need this up-to-the-minute information to get the most from your frames, and to keep the front office happy.

Because the Victor Service Engineer is a mill trained man, you'll find that he speaks your language. He has helped solve thousands of spinning and twisting problems, and is fully prepared to advise you on travelers for conventional fibers, synthetics, or blends. He will call promptly at your request . . . so write, wire or phone the nearest Victor office.

Keep a Step ahead *with*

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 0737

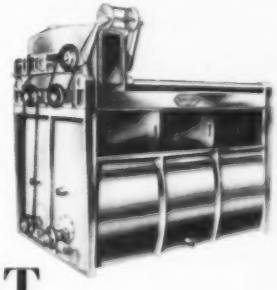
GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 247

VICTOR Ring Travelers

One of a series painted for Rodney Hunt by Ben Stephenson

FAMOUS FINISHES . . *The Nova Scotian fishing schooner "Bluenose" wins the last of the famous International Fishermen's Races sailed off Gloucester in October 1938. Here the "Bluenose" is shown crossing the finish line a scant half mile ahead of her American rival the "Gertrude L. Thebaud."*

AND speaking of famous finishes, Dan River Mills, Inc., are famous for finishes, too. In their case — it's cottons and rayons. Dan River Mills were one of the first to install the new Rodney Hunt "Tensitrol" Washers, and are now setting new records for quality finishing at low production costs. By the way, have *you* the complete story on "Tensitrol"? It has proved to be the biggest news in finishing equipment in many a year. You are invited to turn the page for more specific information about "Finishing For Profit."



RODNEY HUNT

RODNEY HUNT

Established 1840

ORANGE 10, MASSACHUSETTS, U.S.A.

"Tensitrol," "Tru-Shade," "Slack Loop," "Wring-Master," and "Curve-of-Strength" are registered trade marks identifying textile finishing machinery manufactured exclusively by Rodney Hunt Machine Co.

Finishing For Profit

RODNEY HUNT

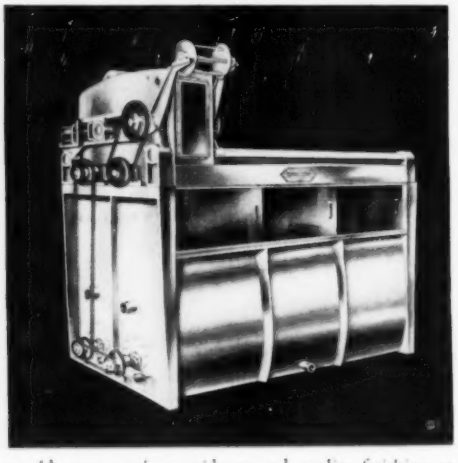
Established 1840

RODNEY HUNT MACHINE CO.
ORANGE 10, MASSACHUSETTS, U.S.A.

Poplins at 200 Yards per Minute in "Tensitrol" Rope Washers

EVERYONE was on edge. Both machines had been built by experienced men from reputable firms. Both were of gleaming stainless steel. Outwardly, the principal difference lay in the curved, strong-ribbed sides of one of the machines. Inwardly, it was the revolutionary design principle of this machine that created the air of tenseness.

Both machines were undergoing the same tests. At stake was more than a large commercial order; if the new design proved itself, it would answer a problem that had beset the textile industry since the beginning of time; it



would mean a giant stride toward quality finishing at sharply reduced cost.

More than 85,000 yards of fabrics were put through each of the washers — 48 miles of poplins, sheetings, dress goods, and other fabrics divided into 32 lots. When the results were scored, Rodney Hunt's new and revolutionary "Tensitrol" Rope Washer had:

1. Established a new peak in washing efficiency.
2. Proved that tensionless operation at that efficiency was possible for the first time in history.
3. Reduced horsepower requirements sharply.
4. Cut water consumption by more than 60%.

But, among the tests was one of *paramount importance to producers and finishers of poplins.* It involved the washing of heavier poplins, which had previously been done in open width form because of the almost certain development of rope marks.

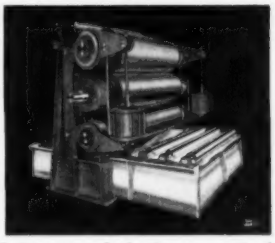
The completely tensionless operation of the "Tensitrol" Open Width Washer, together with the absence of nip rolls, has for the first time assured satisfactory processing of poplins. To be specific, caustic saturated poplins are being run at over 200 yards a minute on this machine and are being washed caustic free with a water consumption of 40 gallons a minute.

★ ★ ★

For Mercerizing At High Speeds

THE fifteen-ton Type RH Three Roll Saturator shown here is used in one of the highest speed mercerizing ranges on caustic impregnation in the country.

This patented saturating unit, complete with a stainless steel tank, has found widespread use for open width work in bleaching, mercerizing, and resin application throughout the country.



One of the famous "Wring-Master" line, the rolls automatically separate when air pressure is released. Instant and absolute control of pressures is assured.

"Wring-Master" Padders are readily available for all types of fabrics, for 'round-the-clock production or for experimental work.

★ ★ ★

Black to Pastels in Five Minutes

A simple hosing of this Combination Washer and Dye Kettle in use in a Rhode Island plant cleans the stainless steel in five minutes. A quick changeover from black to pastels, as an example, is a routine matter.

Hundreds of these Rodney Hunt machines, all with the patented "Curve-of-Strength" tub construction that prevents flexing while being emptied or filled, are in use throughout the world.

Compact and complete, they will take woolens or worsteds from a fulling mill, for example, rinse, wash, dye, rinse, speck dye, and rinse again, all without removing the material from the machine.

One of the most flexible machines in a woolen or worsted plant—this Combination Washer and Dye Kettle can serve exclusively as either a top efficiency stainless steel dye kettle, a stainless steel dolly washer, or as both combined.

★ ★ ★

If further information is desired on the above subjects, please address your inquiries to the Rodney Hunt Machine Co., Orange 10, Massachusetts, U.S.A.

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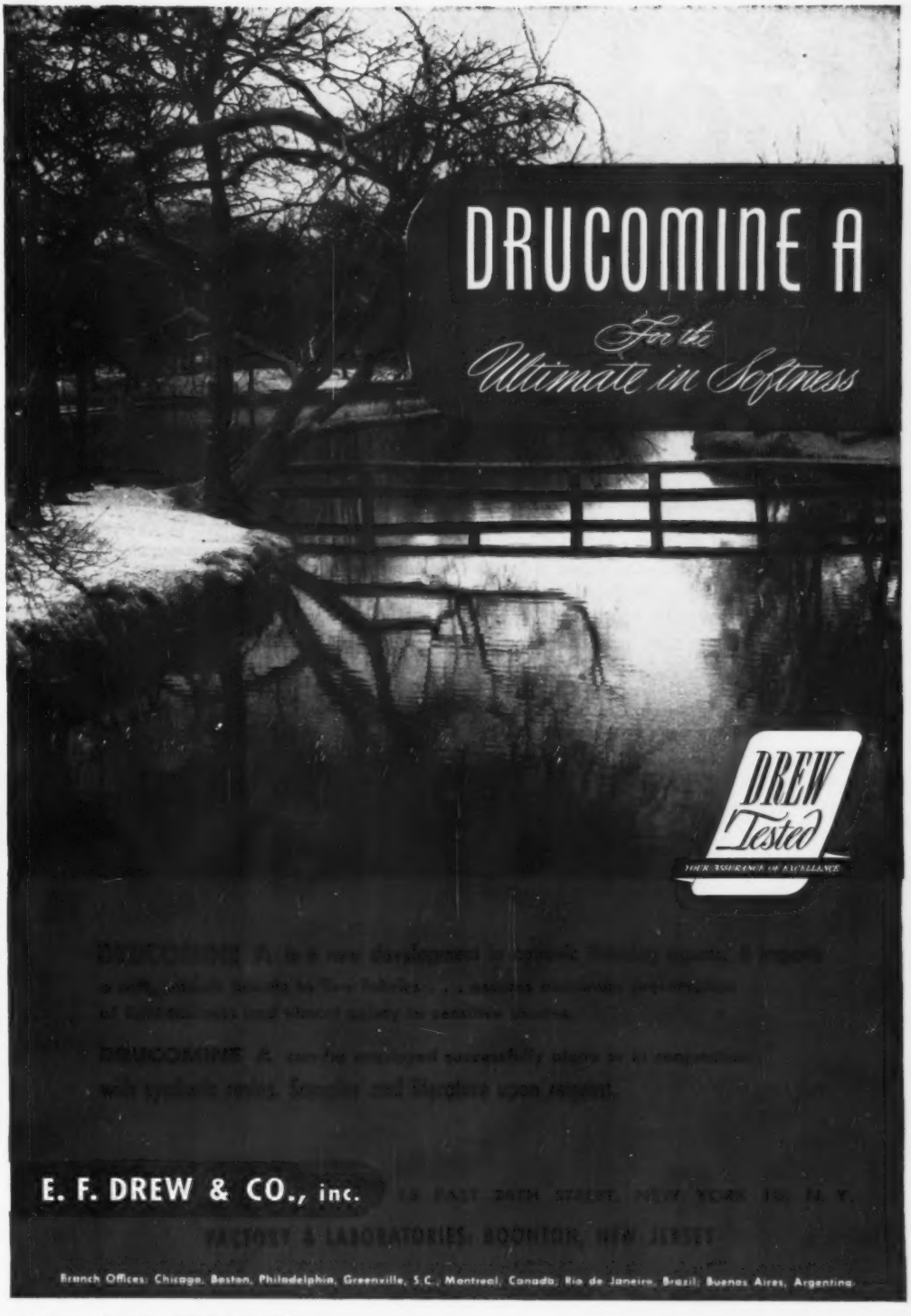

DRUCOMINE A
For the
Ultimate in Softness
DREW
Tested
YOUR ASSURANCE OF EXCELLENCE
E. F. DREW & CO., inc.
Branch Offices: Chicago, Boston, Philadelphia, Greenville, S.C., Montreal, Canada; Rio de Janeiro, Brazil; Buenos Aires, Argentina

Cost-Cutting

QUICK, ACCURATE SPEED CONTROL WITH TEXROPE WIDE RANGE VARI-PITCH DRIVES!

QUICKLY SET EACH MACHINE for highest production with Texrope Vari-Pitch Drives. Speed range is wide. Operation is clean, smooth, quiet and positive. Yet with all these advantages, Texrope wide range Vari-Pitch Drives cost you less to buy, install and operate than any other kind of speed control.

Stationary Control—Lowest Cost Texrope Vari-Pitch speed changing method. Change speeds in five to eight minutes. Range — 50% to 100%.

Motion Control—Speeds changed instantly, *while machine is running.* Same 50% to 100% range. Greatest savings where speed changes are frequent.

Speed Changers — 375% range. Single handwheel sets speed accurately *while machine is running.*

Find out how much time and money you can save with Texrope Vari-Pitch Drives — in wide or standard range. Your Allis-Chalmers Authorized Dealer or District Office will gladly show you the actual savings on your operations in dollars and cents. Call one of these experts today.

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

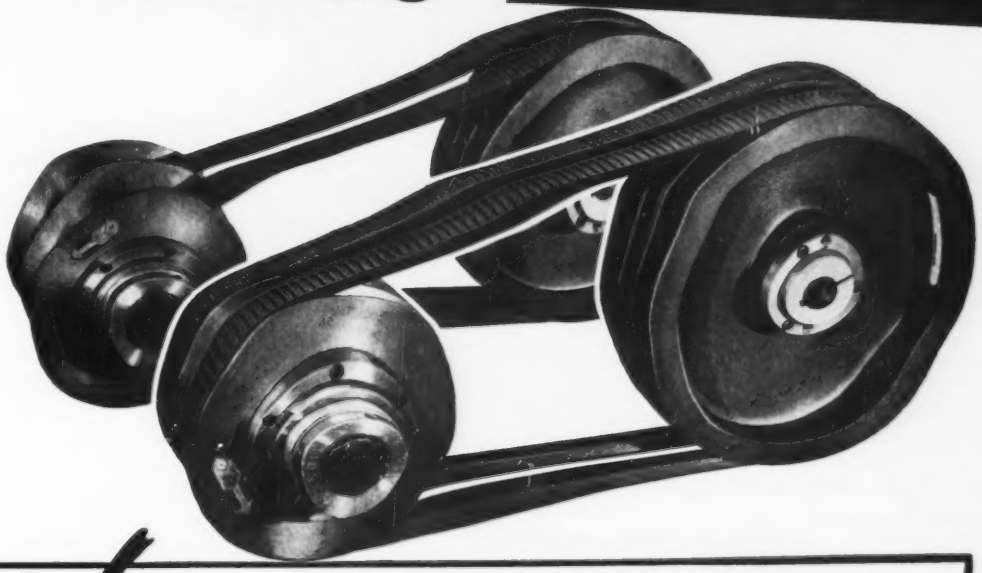
SPECIAL TEXTILE MOTORS CUT MAINTENANCE AND DOWN-TIME!

QUICK-CLEAN MOTOR — the original free-air-flow motor blows lint and dirt right through. Particles cannot adhere to smooth inner surfaces . . . motors cannot clog. Pre-lubricated sealed bearings run five years without attention. Will not leak grease to collect lint and soil fabrics. 3 through 15 hp. Many ratings from stock, others fast delivery.

LOOM MOTORS — Totally-enclosed non-ventilated type especially designed for loom service. Prelubricated bearings operate five full years without maintenance. Cast steel frame with welded steel reinforcement blocks for extra rigidity. Double-dipped, double-baked insulation for longer life. Immediate delivery on ¾ and 1 horsepower ratings.

Texrope, Vari-Pitch and *Quick-Clean* are Allis-Chalmers trademarks.
A 2598

Ideas FOR TEXTILE MEN!



NEW SUPER-FAST DIELECTRIC CAKE DRYING AND TWIST SETTING

Many mills have greatly improved product quality and reduced costs with dielectric heaters. High speed operation, close control and uniform heating throughout produces results unobtainable by other methods.

Typical examples: Drying reduced from days to minutes. Shrinkage variation below 0.4%. Twist set with exposure of 7 minutes at total cost of 1/10th cent per lb. Greater uniformity of deadness. To investigate what dielectric heating can save in your production, call your nearby A-C district office.

ALLIS-CHALMERS

Originators of the Multiple V-Belt Drive for the Textile Industry

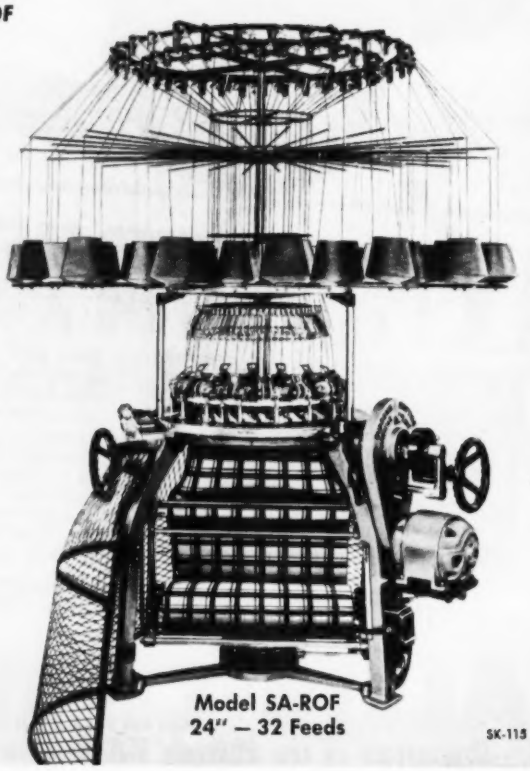
Now you can cross your bridges before you come to them . . .

SUPREME'S MODEL SA-ROF STRIPER TAKES THE "GUESTIMATING" OUT OF MARKET DEMANDS

Supreme's new Model SA-ROF helps you cross your "demand" bridges and join a select group of farsighted, hard-hitting knitters. No matter whether it is variable striped jersey . . . widely spaced "floatless" designs . . . or colorful plaids and checks . . . with this one (1) machine you are always ready to handle all the needs of your customers.

And here's the beauty of it! To accomplish all these different effects, simply change the pattern in the Three-Level Unitary Pattern Wheels and the 4-Color Drum Stripers and you're ready to roll on a new item. Down time is cut to a minimum . . . production raised to maximum.

For more information about the unusual fabrics and wider production range possible with the SA-ROF, write for your *free* copy of new booklet, "Variable Stripes and Plaids Pay."



Model SA-ROF
24" — 32 Feeds

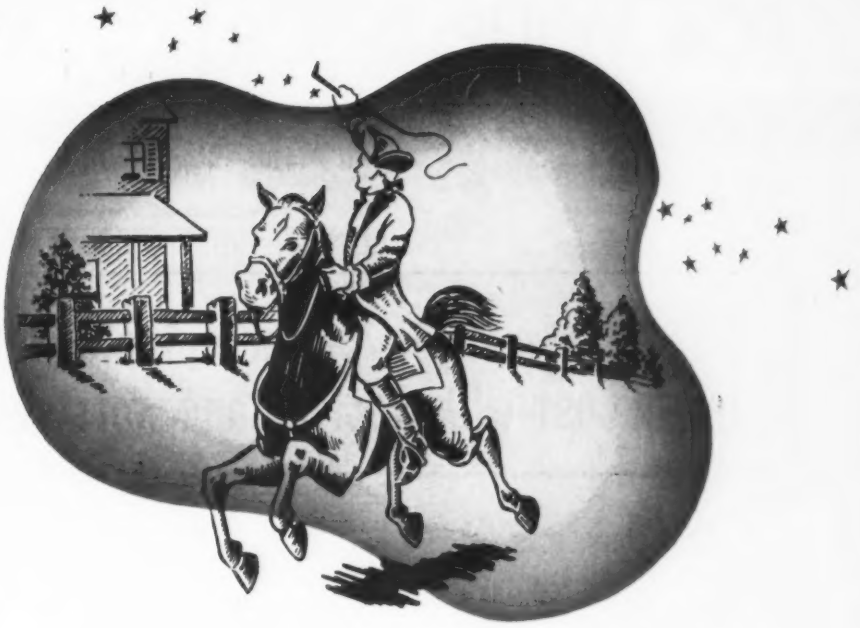
SK-115

Mills Throughout the World Knit With Supremes

SUPREME

KNITTING MACHINE CO., INC.

105 JOHNSON AVE., BROOKLYN 6, NEW YORK, N. Y.



★ REPUTATION ★

The fitful gleam of two lanterns shining from the steeple of the Old North Church in Boston was the signal that sent Paul Revere on his historic ride through the night — a ride which electrified the New England countryside and spread the fame of the rider throughout the world.

In the space of a single night, Paul Revere gained for himself a reputation which will live forever. But in the manufacturing world of today, reputations are not made overnight. It takes years to assemble an organization of men, equipment and experience which must be combined before a worth-while reputation for quality of product and fair dealing can be established.

For more than a century, Whitin has been engaged in the manufacture of textile machinery. Today we are proud of the reputation for quality which our machines enjoy in the textile industry. This reputation has been built upon the solid foundation of progress through research, sound engineering, craftsmanship in manufacturing and a service organization designed and maintained to keep Whitin machines operating at their maximum efficiency wherever they may be in use throughout the world.

We are proud of our reputation, but not boastful. Our efforts to live up to it create tangible customer benefits in actual dollars and cents. In mill after mill, thousands of Whitin machines are proving worthy of this heritage by operating year in and year out at high rates of production and efficiency with low maintenance expense. You, too, can depend on Whitin. Why not do so when selecting additional equipment for your mill.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

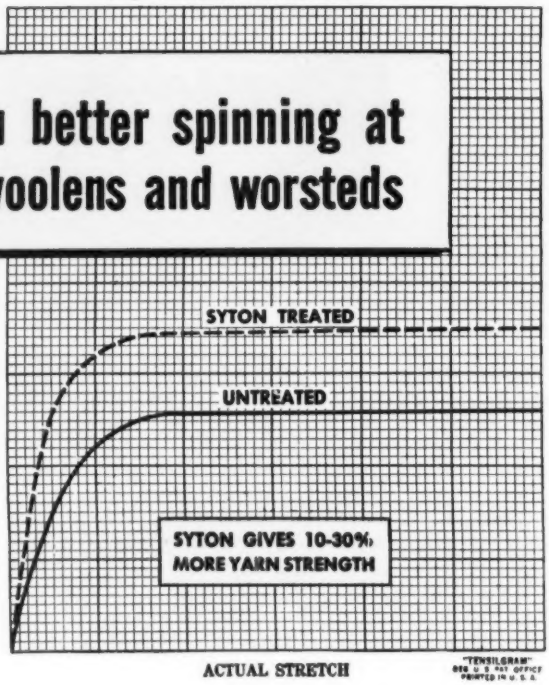
CHARLOTTE, N. C. • ATLANTA, GA.

FOR YOUR INFORMATION

Henry L. Scott Co. Providence, R. I., U. S. A.

SYTON gives you better spinning at LOWER COST with woolens and worsteds

Laboratory tests and actual field experience show Syton gives 10-30% more yarn strength in woolen and worsted spinning



This added yarn strength means:

FASTER PRODUCTION: Because of increased yarn strength, the amount of twist can be reduced and production speeded.

LOFTIER YARNS: Less twist means loftier yarns, with tensile strength equal to or better than the strength of untreated yarns of higher twist.

HIGHER COUNTS: Closer to limit spin—for most grades of stock can be attained with Syton-treated yarns.

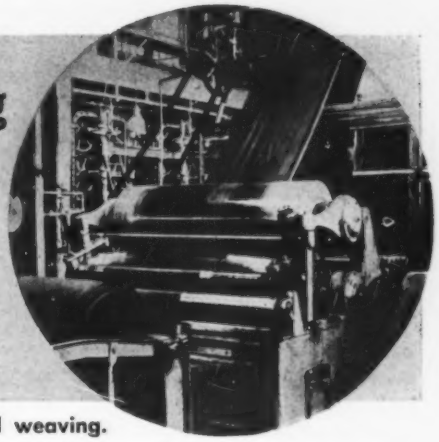
FEWER ENDS DOWN: Reductions vary from 25% to 50% depending on the grade of wool.

BETTER SPINNING EFFICIENCY: Syton produces more uniform yarn with less beard and thin spots, reduced fly waste, and better drafting.

WHAT SYTON IS:

Syton is a colloidal dispersion in water of submicroscopic silica particles which are deposited on the fibers, increasing fiber friction. The improved fiber "drag" increases yarn strength, results in better, more uniform draft control.

Get faster... easier weaving ...better fabrics with STYMER Acetate Size



Speeds operations, cuts costs in finishing and weaving.

Stymer is Monsanto's new synthetic sizing agent. Used in acetate slashing, it makes easier weaving in the loom. And it gives warp a superior finish over a wide range of humidities and temperatures.

1. Stymer forms a strong, tough, smooth and flexible film.
2. It is easily applied in a uniform coating on the individual yarn.
3. It adheres well to the fiber.
4. It is easily scoured from the woven fabric in warm water containing a mild detergent.
5. Stymer reduces static electricity.

IN SLASHING, Stymer does not stick to uncovered dry cans, stops static electricity, separates easily at the lease rods, does not gel in the pipes or size box.

IN WEAVING, Stymer-sized warps show little or no shedding, maintain yarn twist, have fewer end breaks and produce a more uniform fabric.

Stymer has high electrical conductivity—at least 400 times that of other sizes. When Stymer is used, static eliminators are unnecessary.

For further information about either Stymer or Syton clip the handy coupon below.

Syton, Stymer: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS — PLASTICS

MONSANTO CHEMICAL COMPANY, TEXTILE CHEMICALS DIVISION
Desk TWT-14, 140 Federal Street, Boston 10, Mass.

Please send me information on ☐ *Stymer,* ☐ *Syton.*

Name _____ Title _____

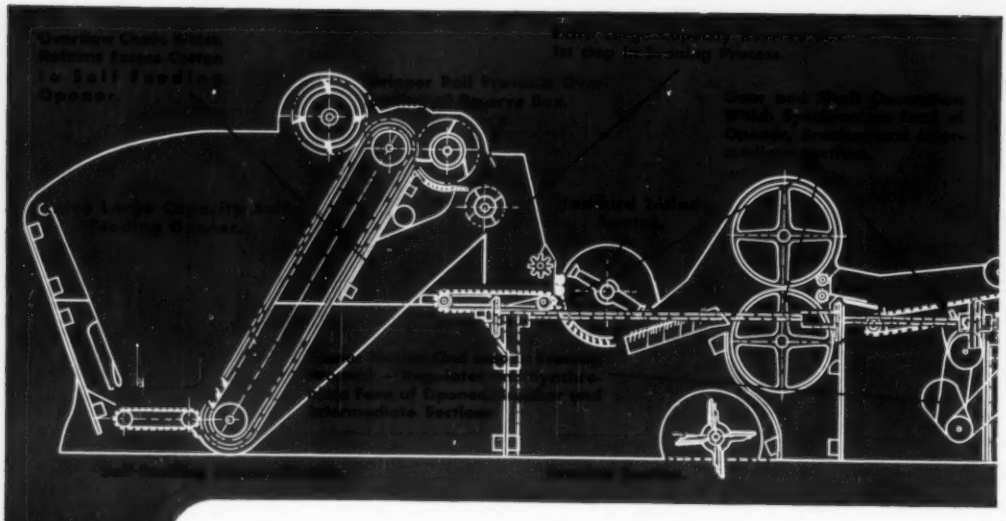
Firm _____

Address _____

City _____ Zone _____ State _____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

H&B A-1 ONE PROCESS PICKER-



THE H & B A-1 One Process Picker has established an admirable record for picker room performance. Modern Mills which demand exacting lap tolerance consistently report top efficiency, with rejected laps running as few as 5 per 1,000.

This exceptional lap uniformity is due to an evening process which starts at the Reserve Box in the Opener Section and continues through the Breaker and Intermediate to the Finisher Section. At no point, once the lap is started, is the evener process interrupted.

Our patented Reserve Box (in the Opener Section), which acts as No. 1 evener, is shown in the above illustration. The volume of raw stock in this box is kept constant, thus providing a uniform supply of stock to the feed apron delivering to the Breaker Section.

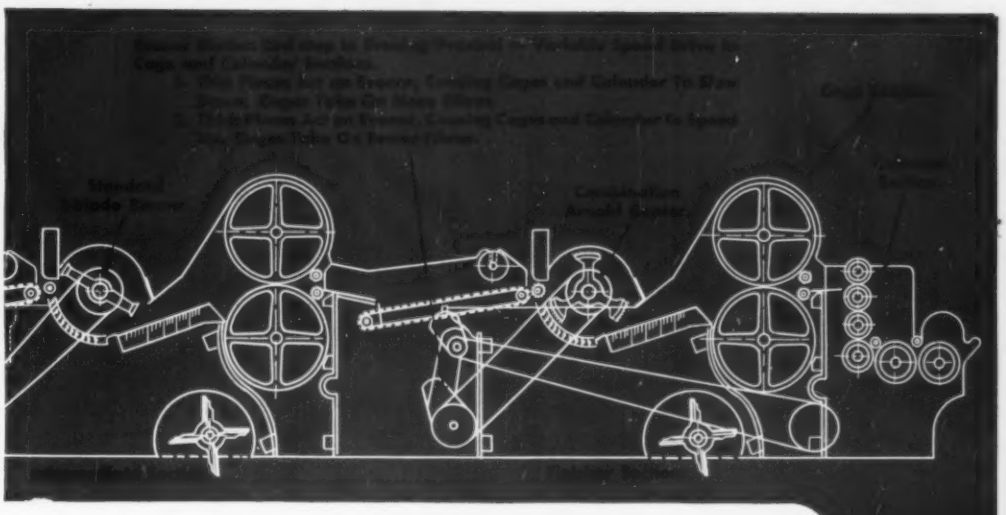
The evener motion in the Intermediate Section is also shown. Here a cone evener regulates and synchronizes the rate of feed of the Opener, Breaker and Intermediate Sections. The lap produced at the Intermediate Section is so nearly perfect that the final evener process in the Finisher Section is greatly simplified.

H&B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND LABORATORY

99% OF LAPS PRODUCED PERFECT



The final evener motion in the Finisher Section, where our patented variable speed calender and cage drive is used, is also shown above, with an explanation of how it operates.

3 BEATING OPERATIONS

The H & B A-1 One Process Picker uses 3 beaters to achieve a more thorough opening and cleaning of the fibres. Gentle handling of the fibres is insured by proper beater settings and proper beater speeds so as to deliver the proper number of blows per inch. Even the most delicate rayon fibres can be safely processed in this way.

The Combination Arnold Beater, manufactured exclusively by H & B, ordinarily used in the Finisher Section, combines the positive effectiveness of a blade beater and the gentle carding action of a Kirchner beater.*

*Any combination of beaters adequate for the processing of any raw stock can be supplied.

MACHINE CO.

Textile Machinery

ANOTHER "STIENEN" ACHIEVEMENT

*PATENT PENDING

THE

Stienen

Reg. Trade Mark

RAYON PACKAGE DYEING MACHINE

has been developed to supplement our Rayon Cake Dyeing Machine. It provides the dyer of rayon yarns with far greater flexibility.

While our Rayon Cake Dyeing Machine has it's distinct advantages for certain mills, the "Stienen" Rayon Package Dyeing Machine is of utmost importance to the entire rayon processing trade.

Package dyeing of rayon is ideal wherever the source of supply is in wound form. Rayon from any size cakes, cones or tubes may be dyed in the package form. Different types of rayon and synthetic yarns may all be dyed in this machine.

The cost of rewinding to the package for dyeing **is negligible in comparison to the cost of skein winding. Quality of the original yarn is maintained, as no fibre disturbance takes place in our method of rayon package dyeing.**

STIENEN

Lead with the LEADER

OBERMAIER

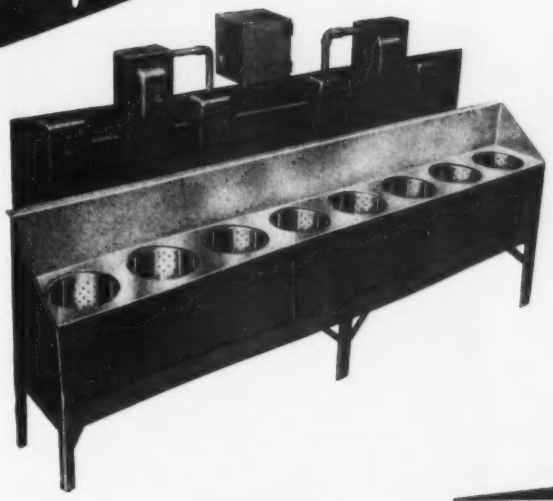
COPYRIGHT 1948 E. A. STIENEN

NEW YORK, N. Y.

Maintaining our tradition of leadership in the design and fabrication of stainless steel dyeing equipment.

—AND TO COMPLETE THE ENTIRE PROCESSING CYCLE OF RAYON IN THE PACKAGE FORM:

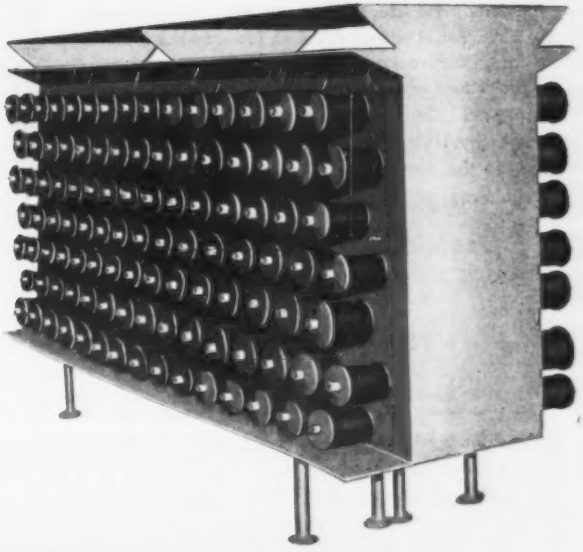
plus



THE INDIVIDUAL CENTRIFUGAL EXTRACTOR

Maintains the rayon package in excellent condition and extracts approximately 400 lbs. dry weight of yarn per hour with an inexperienced operator.

plus



THE

Stienen

Reg. Trade Mark

RAYON PACKAGE DRYER*

*PATENT PENDING

Standard Fabricators

INCORPORATED

355 Walton Avenue • New York 51, N. Y.

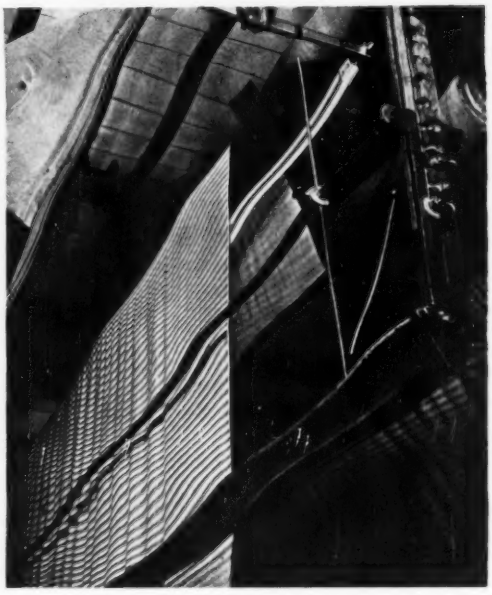
FOLDING FREED from STATIC-CAUSED TENSION for Van Raalte

IONOTRON STATIC ELIMINATOR® HELPS BOOST OUTPUT 5%

A 5% production increase is always worth-while! That's what the Van Raalte plant at Saratoga Springs has accomplished by eliminating static on their tentering machine.

Previously, static-loaded fabrics snagged on the folding tables, causing numerous rejects. Static also caused extreme tension in the knitted fabric coming from the tentering machine. Subsequent shrinkage of the static-stretched cloth, after being cut to pattern, caused further rejections. It was necessary to have two men tend the tentering machine to keep the fabric moving freely.

Then Van Raalte installed an Ionotron Static Eliminator on the machine. Results: Production up 5% . . . static-caused rejects eliminated . . . no more shocks to personnel . . . and the fabric discharges properly without manual attention. A. T. Guild, Plant Manager, credits the Ionotron with eliminating all of these troublesome and expensive difficulties.



Arrow shows the 144-inch Ionotron Static Eliminator installed on the tentering machine at Van Raalte

SEND COUPON FOR FREE BULLETIN!

The benefits of various other Ionotron installations are reported in a new U. S. Radium bulletin. We'll be glad to send you a copy. And for any special static problems, our engineers are available to work with you.

Dept. U-7, United States Radium Corp.,
535 Pearl Street, New York 7, N. Y.

Please send my free copy of bulletin 8.4 "Ionotrons in Industry."

Name_____

Position_____

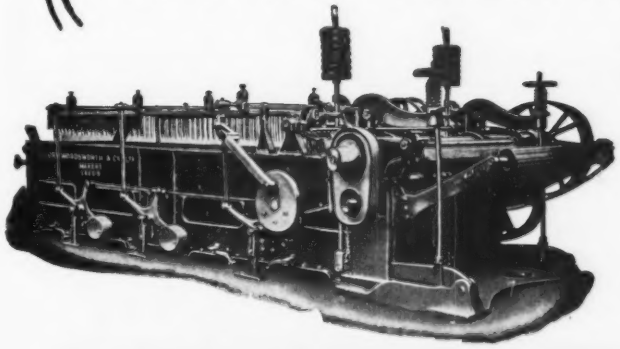
Address_____

City_____ Zone_____ State_____

U·S RADIUM

IONOTRON Static ELIMINATOR

for Perfect WOOL WASHING



The LEVIATHAN Wool Washing MACHINE

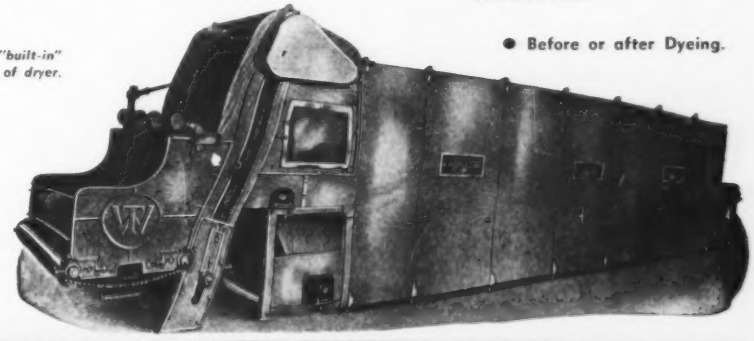
This modern Harrow type machine handles the stock gently and with little agitation through every stage. All the controlling mechanism is below the top of the bowls and all the belts are on one side, permitting rapid inspection of the progress of the wool. Settling tanks extend the full length of the bowls, giving maximum area for dirt settling.

Aireflow DRYING MACHINE for Wool, Cotton, Flax, Rags, and any type of similar raw material.

An entirely New Dryer of the single Apron Type with a positive and controlled air circulation. Compact in size, low in steam consumption and upkeep costs. Entirely accessible and clean in operation. No danger of colour mixing with dyed materials.

● *View at Feed end showing "built-in" auto feed and working side of dryer.*

● Before or after Dyeing.



WILLEYS, OPENERS, WOOLWASHERS, DRYERS, Etc.

P.S.S. AND S. LTD.

PRINCE-SMITH & STELLS

LIMITED

INCORPORATING TAYLOR WORDSWORTH & CO LTD.

KEIGHLEY — ENGLAND

Agents, U. S. A. and Canada—English system machinery
Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

Agents, U. S. A.-French system machinery P.S.S./2
The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

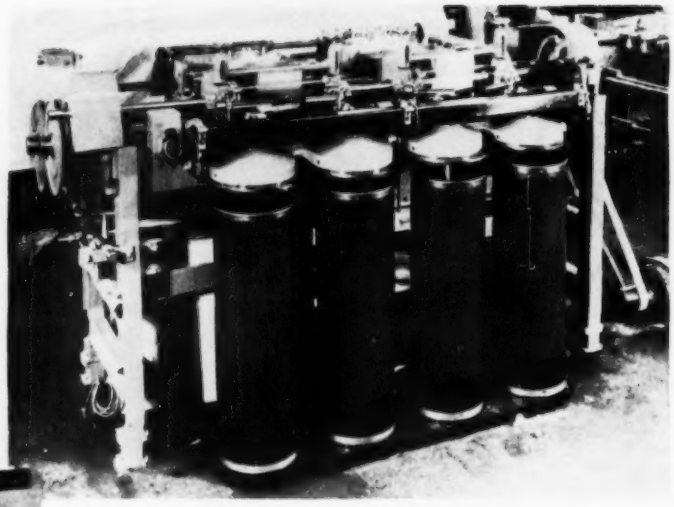
HOLDSWORTH
GILL SCREW CO. INC.

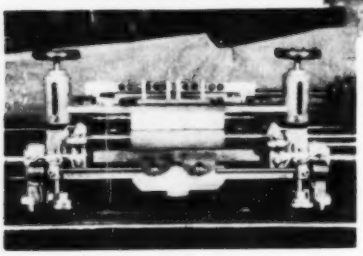
Announces

THE NEW
HOLDSWORTH
HIGH DRAFT
HIGH SPEED

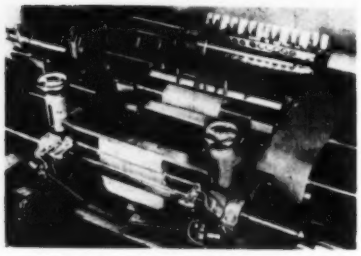
GILL REDUCER

(Patented)





Front View showing closeup of delivery end.



Overhead View showing the featured high drafting rolls.

Developed expressly for the

ABBREVIATED
SYSTEMS
of manufacturing
WORSTED YARN

Built with DOUBLE HEAD
for
4 BALL CAN DELIVERY
and
SINGLE HEAD WITH
DOUBLE BALL DELIVERY

FOR COMPLETE DETAILS INQUIRE OF THE

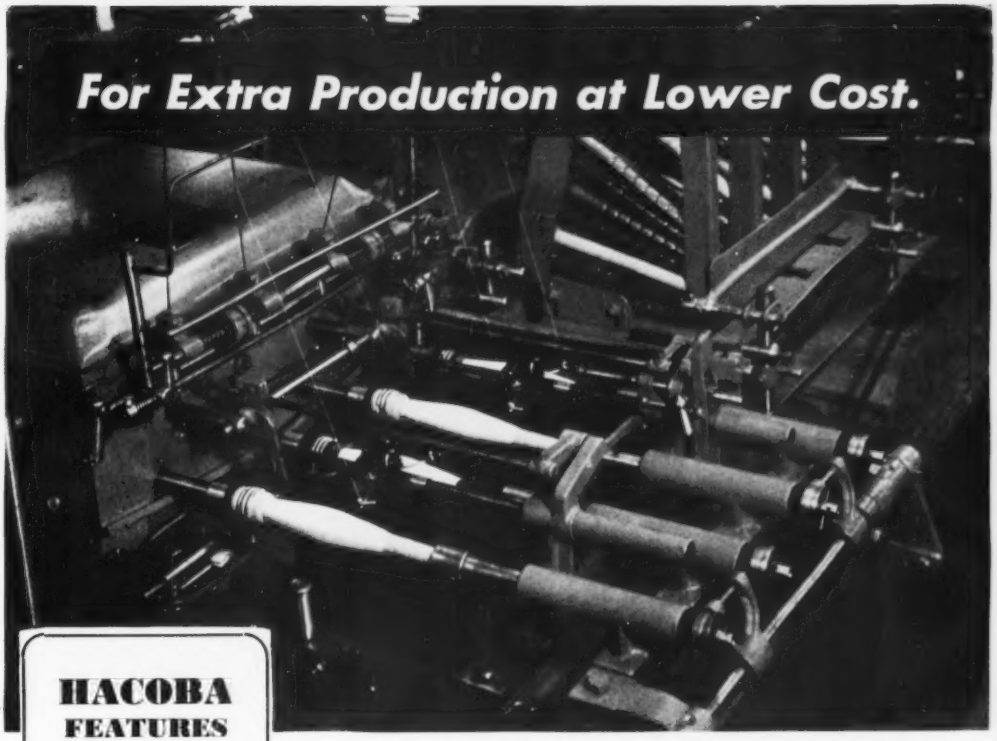
Exclusive Sales Agents

Atkinson, Haserick & Co.

BUSINESS ESTABLISHED 1823

211 CONGRESS STREET **BOSTON 6, MASS.**

For Extra Production at Lower Cost.



Winding Fine Deniers of Rayon Crepe in a New England Mill

HACOBA FEATURES

- High Spindle Speed
- Saving in floor space
- Maximum operator production
- Constant speed—no friction drive
- Mechanical building mechanism
  - *No discs—no cups—no yarn damage*
- Quick setting for full bobbin diameter
  - *No parts to change*
- Automatic bunch builder
  - *Traversing or stationary bunch*
- Yarn layer locking device
  - *Prevents sloughing in shuttle*
- Reception tray for full bobbins
  - *Prevents yarn damage*
  - *Short tail ends*
- For Cotton, Rayon, Wool and Worsted Yarns

HACOBA

(Trade Mark)

The Original Automatic

FILLING WINDER

once again offered for

QUICK DELIVERY

by

SOLE AGENT

Atkinson, Haserick & Co.

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Textile Machinery Agents and Engineers

211 CONGRESS STREET, BOSTON 6, MASS.

ALSO REPRESENTING

PRINCE-SMITH & STELLS Ltd.
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HOLDSWORTH GILL SCREW CO., Inc.
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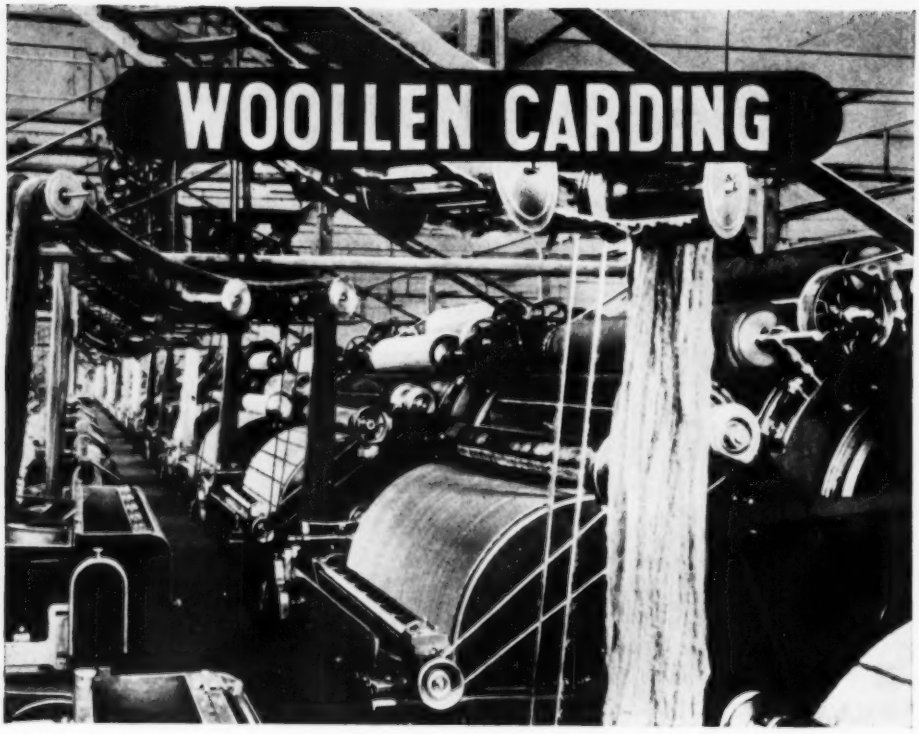
The CENTRIF-AIR MACHINE CO., Inc.
and GENERAL MILLS SUPPLIES



ENGLISH, SCOTCH and AMERICAN SYSTEMS

Illustration of a modern high production Yorkshire layout showing Scotch feeds between scribbler and carder engines.

Photo, by courtesy of Messrs. J. J. L. & C. Peate, Ltd., Guiseley, Yorks.

Designed by experts and embodying all the accepted principles of modern woollen carding technique for quality production and highest practicable speeds, our machines are precision built and every machine supplied to the trade is backed by a world wide reputation, which means that it is built from the finest quality materials and incorporates every proved feature of modern practice.

A new and comprehensive catalogue describing and illustrating our carding sets for the English, Scotch and American systems, is in printer's hands. Will those interested please apply on their business letter heads, for a copy when available.

Platt Bros. (SALES) LIMITED.

OLDHAM, ENGLAND. TELEPHONE MAIN (OLDHAM) 3 8 8 4

TELEGRAMS TEXTILMAK OLDHAM.

MARKETING THE TEXTILE MACHINERY MADE IN THE WORKS OF PLATT BROTHERS & CO. LTD. HOWARD & BULLOUGH LTD.

DOBSON & BARLOW LTD. BROOKS & DOXEY LIMITED ASA LEES & CO. LTD.

DESIGNED TO CATCH A WOMAN'S EYE!

Across the sales counter, it's women who buy textiles. When you package for women, the important things to remember are color, style, convenience, design. Because the package that attracts women is the package that sells.

Let our Textile Packaging Laboratory help you add selling power to your packages. We study the psychology of women at the point of purchase—survey your packaging and distribution methods—and recommend the specific package most suited to your own product, most economical for your needs, most attractive to the consumer. Container Corporation's long experience and leadership in package development are at your service.

CONTAINER CORPORATION OF AMERICA

TEXTILE PACKAGING LABORATORY, PHILADELPHIA

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

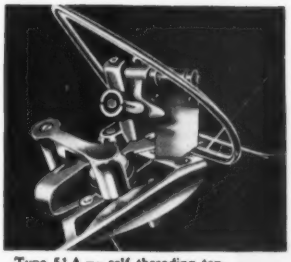
FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

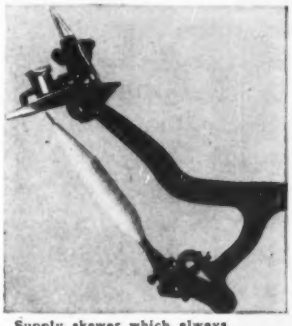
●

ESTABLISHED 1840



Type 51 A — self threading tension and slub catching attachment.

Easy doffing. Package holder swings out.



Supply skewer which always swings back into place after doffing.

Typical worsted cone.

6 ADVANTAGES YOU WANT *in a wool and worsted winder*

Here are six things which you (or any mill man) want in a wool and worsted winder and which can be obtained with a Foster Model 102.

1 **HIGH PRODUCTION.** This machine will produce twice as much as an obsolete model, being capable of winding speeds up to 700 y.p.m. (One mill that we know of is running 80's worsted at 400 y.p.m.). It can be built to wind 7" traverse packages, if desired.

2 **LOW OPERATING COST.** Approximately ⅓ less than that of obsolete models. Labor saving features include self threading tension devices, easy doffing, efficient knock-off mechanism, and a supply skewer for single mule spun yarns which always swings back into place and prevents a mule cop from jumping off; it also permits a single balloon which reduces breakage.

3 **LOW MAINTENANCE AND REPAIRS.** A specially trained mechanic is not required to maintain this machine or make changeovers. Hardened steel or porcelain parts minimize cutting and grooving by hard twist yarns. Repair costs run as low as $3.50 per year per 100 spindle machine.

4 **A GOOD PACKAGE.** Angle of wind may be varied between 9° and 18° by means of simple gear changes. Thus, the *correct* angle of wind for any given type or count of yarn is obtainable, and firm, well shaped packages are assured. Yarn may be conditioned, if desired.

5 **A CLEAN YARN.** Our Type 51-A Tension and Slub Catching Attachment will break out slubs or other imperfections. Thus, burling and mending costs are materially reduced.

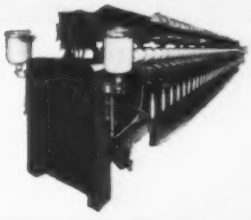
6 **FLEXIBILITY.** In case the types of yarn you produce change, angle of wind and taper on Foster Model 102 may be changed accordingly, to handle any kind and count of staple yarn and to produce warping cones, knitting cones, parallel tubes, short traverse tubes, or dye packages.

Send for Bulletin A-95.

FOSTER MACHINE CO.

Westfield, Mass., U.S.A.

Southern Office: Johnston Bldg., Charlotte, North Carolina; Canadian Representative: Ross Whitehead & Co. Ltd., University Tower Bldg., 660 Ste. Catherine Street, West, Montreal, Quebec; European Representative: Muschamp Taylor Ltd. Manchester, England.

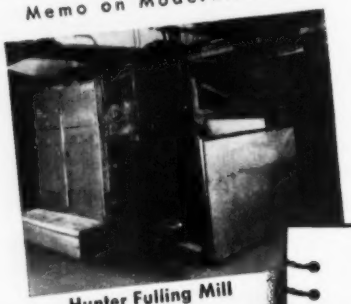


FOSTER MODEL 102

The Flexible Winder

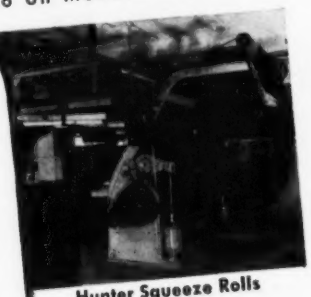
FOR COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN SILK OR SPUN RAYON YARNS

Memo on Modernization

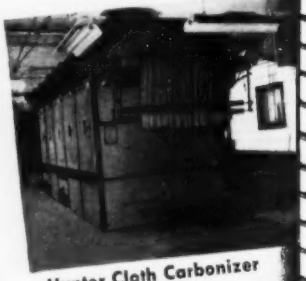


Hunter Fulling Mill

Memo on Modernization



Hunter Squeeze Rolls



Hunter Cloth Carbonizer

Hunter Stainless Steel Dye Kettle

Memo on Modernization

MODERN MILLS SPECIFY
Equally MODERN HUNTER Equipment

The photos on this page show but a few of the Hunter machines installed by Strong, Hewat & Company, Inc., in its modernization program. Strong, Hewat & Company, Inc. operates with completely up-to-date machinery. Its wet finishing, drying, carbonizing and dyeing is one hundred per cent Hunter engineered and Hunter built.

Hunter preparation, wet finishing, dyeing and drying machinery is specified by Modern Mills because it is machinery that is dependable, high producing, and is designed to operate at a minimum cost in labor, power, and maintenance. We cordially invite you, at no obligation of course, to write for new catalogs describing these modern units in detail. The brochures will tell you what these units can do for you, based on what they are doing for others. Write

BUILT BY HUNTER . . . IT'S DEPENDABLE

Hunter

JAMES HUNTER MACHINE CO.
NORTH ADAMS, MASS. FOUNDED 1847

For less bolster wear, smoother running spindles,

Gulf Lubrication Engineers recommend

Superrefined by Gulf's exclusive Alchlor Process, Gulfgem Oil has unmatched resistance to oxidation—does not form harmful sludge deposits. Thus Gulfgem lasts longer in spindle service—users report that it outlasts other spindle oils by as much as four to five times.

With good operating practice Gulfgem Oil eliminates the need for periodic cleaning of bolsters. Clean spindles and bolsters means substantial savings in power costs!

Gulfgem Oil has outstanding lubricating qualities—helps insure less wear, fewer spindle and bolster renewals, and freedom from spindle wobble.

Call in a Gulf Lubrication Engineer today and ask him to demonstrate the many advantages of Gulfgem Oil. This superior spindle oil is available in four grades with the proper range of viscosities for every type of high speed spindle. Write, wire, or phone your nearest Gulf office.

Gulf Oil Corporation · Gulf Refining Company

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Boston · New York · Philadelphia · Pittsburgh · Atlanta
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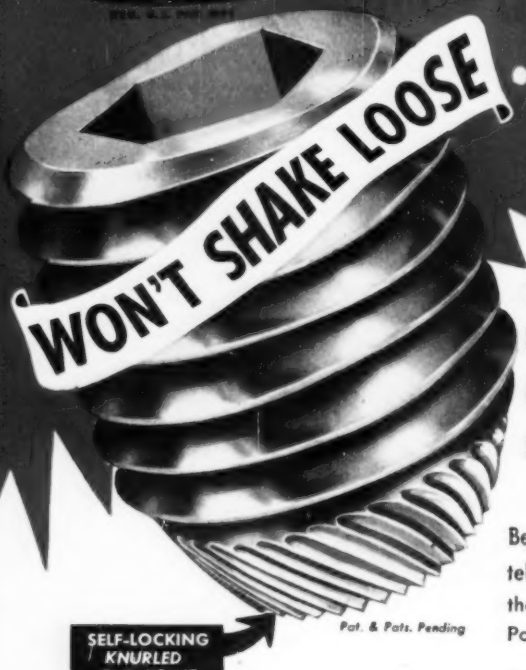
GULF INDUSTRIAL LUBRICATION

UNBRAKO



Pat. & Pats. Pending

SELF-LOCKING KNURLED CUP POINT

... proved by

EXPLANATION OF VIBRATION TESTS DEMONSTRATING THE HOLDING POWERS OF DIFFERENT TYPES OF "UNBRAKO" SOCKET SET SCREWS

Better than words, the graph of actual vibration tests quickly tells the story of the exceptional "HOLDING POWER" of the "Unbrako" Self-Locking Set Screw with the Knurled Cup Point . . . *"the screw that won't shake loose."*

Vertically, the graph is divided into increments of 30 minutes. Each bar—black for Plain Cup Point and red for Knurled Cup Point—represents a screw tested and the number of minutes at which it loosened. *The height of each black bar, therefore, is a direct measure of the length of time before the plain pointed screw shook loose.* The Self-Locking Knurled Cup Pointed Screws—indicated by the red bars—were still tight at 300 minutes.

All screws were tested under identical conditions. Rate of vibration—1750 cycles per minute . . . duration of test—until screw shook loose or tests were discontinued.

Analyzing the graph and comparing the two types of screws, we find that the most favorable test of the Plain Cup Point shows a failure at 10 minutes and 40 seconds. *No Knurled Cup Point shows signs of loosening at 300 minutes—more than 28 times the "HOLDING POWER" of the Plain Cup Point—a tremendous superiority . . . as proven by actual tests and use.*

The "Unbrako" Self-Locking Set Screws with the Knurled Cup Point can be used over and over again.

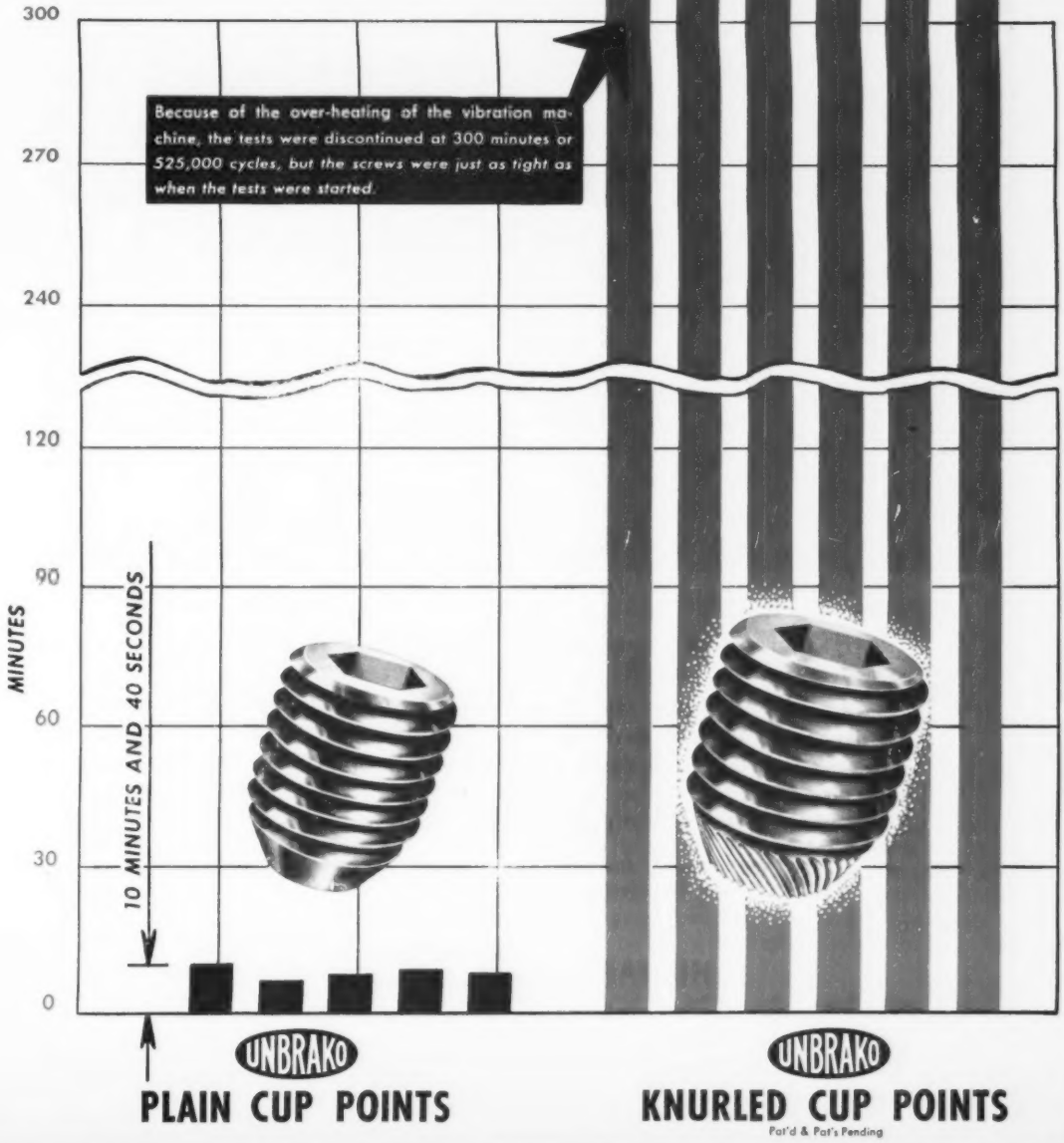
OVER 45 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

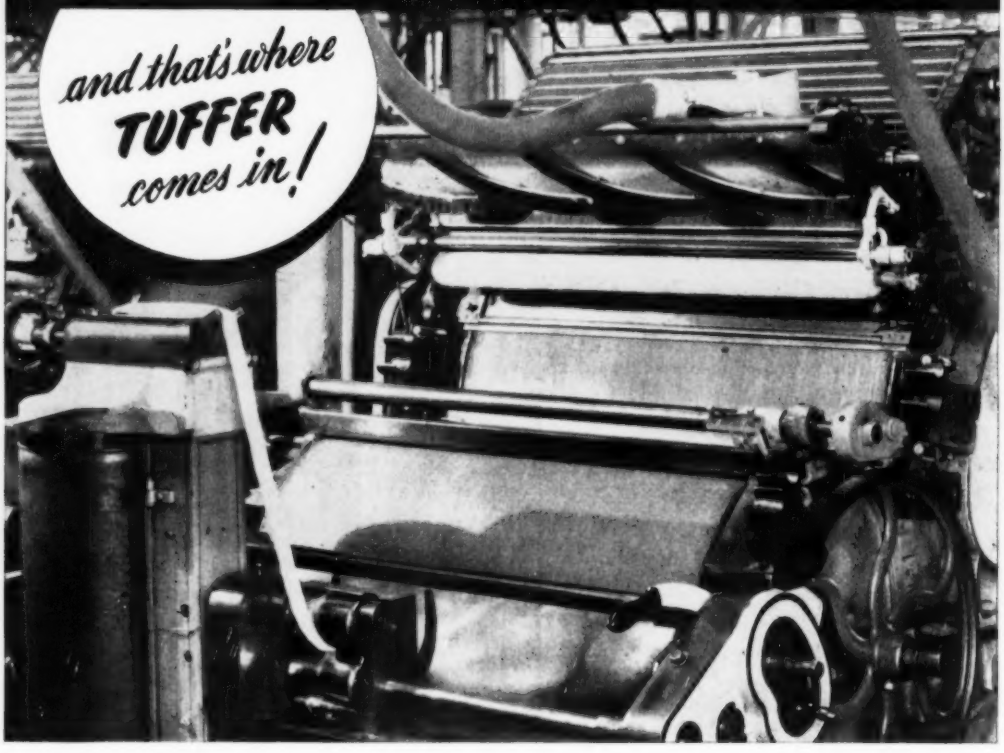
Box 571, JENKINTOWN, PENNSYLVANIA

BRANCHES: CHICAGO DETROIT ST. LOUIS SAN FRANCISCO

actual tests



Top Quality Clothing Cuts Your Carding Costs



THE quality of the material produced by your cards depends upon the quality of your clothing . . . that's why it's wise to use TUFFER!

The Tufferizing Process—developed and exclusively owned and used by Howard Bros.—cuts and forms wires with an accuracy never before obtained in the making of card clothing. The wires—tough, strong and of even temper—are formed with precision and placed with hairline accuracy in the famous Tuffer Foundation . . . when drawn on the cylinder they fit snugly—**points perfectly parallel and every one in place.**

For complete information ask our nearest representative or write to any Howard Bros. plant or office.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanca, Texas *Direct Representation in Canada* A-2

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

NEW WHITEHEAD PERMALUBE SADDLES AND NEBS

Prices:
SADDLES 60c each
Complete with stirrup
NEBS 30c each

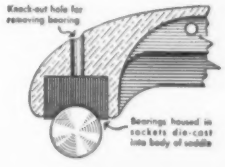
INSTRUCTIONS: INSTALL AND FORGET

Here, at last, are Saddles and Cap Bar Nebs that never need oiling, can't gall or score the rolls—Saddles that won't cock or wander, that are easy to clean and will last for years. And yet, with all their superiority, Permalube products cost you less! No wonder so many leading mills are now installing Permalube Saddles and Nebs *exclusively*.

Only WHITEHEAD PERMALUBE Products Offer All These Money-Saving Features

- Years of trouble-free service
- Very low friction coefficient
- No oiling — No mess
- No oil on yarn from top rolls
- Aluminum bearing holders can't score rolls
- Less lint accumulation
- Easier picking — less often
- Pivot point permanently adjusted
- Saddle self-aligning. No tilting
- Bearings quickly and cheaply replaced if ever necessary

THE BEARING THAT OILS ITSELF



Forty-eight percent of the weight of the Permalube bearing is non-drying oil stored up in thousands of tiny capillaries which feed lubricant to the rolls as needed. Friction and wear are reduced almost to the vanishing point. Repeated tests, equal to years of hard service, show bearing wear of only .002"—less than the thickness of paper!

TRY PERMALUBE PRODUCTS AT OUR RISK • Try a frame of these long-life, self-oiling saddles and nebs for three months. If you don't find that they are the best you've ever used, return them for full refund of their purchase price. When ordering, send worn samples or give specifications of your frame to one of our representatives listed below.

PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
BOX 248 FAIRBURN, GEORGIA
Makers of Permalite Aluminum Separator Shields
EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.*
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Box 4354, Atlanta, Ga.

North Carolina
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93A Broadway, Providence, R. I.

PERKINS AUTOMATIC BIN PILERS

PATENTED

You cannot afford to pile by hand

B. F. PERKINS & SON, INC.

ENGINEERS AND MANUFACTURERS

HOLYOKE • • • MASSACHUSETTS

Franklin Process LARGEST PACKAGE DYERS IN THE WORLD

NOW IT'S "4-6-7"

For many years Ashworth has had 3 factories, 6 repair shops and 7 distributing points in strategic textile centers, and until recently, these have been adequate to supply the card clothing requirements of our many friends in the textile industry. However, the continued expansion of the textile industry in the south, and of the number of customers that we serve in that area, now necessitates a factory in that locality.

Such a factory is already in operation at Greenville, S. C. (see illustration), — brand new and specially constructed for the purpose. So now, when you think of Ashworth, think of "4-6-7" instead of "3-6-7." It means better service than ever.

And remember that Ashworth offers a free card survey and inspection service as well as all types of card clothing. Ask us about it.

ASHWORTH BROS., INC.

AMERICAN CARD CLOTHING CO. (Woolen Div.)

Fall River*†‡; Worcester*‡; Philadelphia*†‡; Atlanta†‡; Greenville*†‡; Charlotte†‡; Dallas†‡; (Textile Sply Co.)

*Factory †Repair Shop ‡Distributing Point

PRODUCTS and SERVICES

— Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards, and for all types of Napping Machinery • Brusher Clothing and Card Clothing for special purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerin and Top Flats Reclothed.

Ashworth PIONEERS IN CARD CLOTHING

4 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

TRY US FIRST

when you need Stainless Steel

Are you looking for Stainless? Then you'll be glad to learn that our stocks include: No. 2B Finish Sheets "par-excellence"; No. 4 Finish Sheets of uniform quality; bars meeting high standards of machinability; plates up to 120" wide and 360" long; welded and seamless tubing, pipe, angles, channels, welding electrodes in all standard grades and specifications.

Moreover, you can't beat U·S·S Stainless Steel for quality and proven excellence. And you'll get prompt, courteous service.

Fill in and mail the coupon—now—for free booklets on U·S·S Stainless Steel.

TURN IN YOUR SCRAP · **The more scrap—the more steel**

United States Steel Supply Company
Dept. V-29, 208 S. La Salle St., Chicago 4, Ill.
Without obligation on our part, please send us free booklets on U·S·S Stainless Steel as checked below.

☐ Fabrication Book ☐ Food Handling and Processing ☐ Petroleum Industry

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UNITED STATES STEEL SUPPLY COMPANY · STEELS · SERVICE

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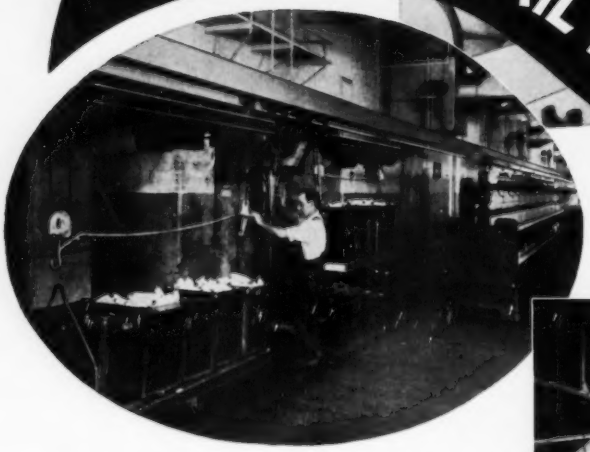
UNITED STATES STEEL

SAVE TIME!
SAVE LABOR!
SAVE FLOORS!

with MONORAIL HANDLING



Any American MonoRail installation will lower costs, reduce fatigue, and cut down maintenance for handling. American MonoRail Systems serve many operations in textile mills. They eliminate congestion and spoilage and keep production on schedule without delay.

Consultation with American MonoRail Engineers will reveal why American MonoRail equipment serves many large textile and industrial plants. We invite your inquiry.

SEND FOR BULLETIN C-1. A 56 page book showing successful applications of American MonoRail Systems.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

BUILT TO BREAK RECORDS FOR LONG LIFE

Now, for the most severe services, you can choose the new Jenkins Fig. 976-A with complete confidence that it will set new economy records. Use it for pressure regulation, bleeds, drips, and drains, or any close regulation of steam that threatens wire drawing. It will lower maintenance, last longer, where entrapped pipe chips, scale, or rust tubercles are a problem.

SMASHED PIPE CHIPS, WIRE, LEAVE NO SCARS

Steel pipe chips and ⅛" wire rod, with Brinell hardness in excess of 300, were crushed between the new Jenkins JX500 Plug and Seat Ring without leaving a scratch or dent. That's proof of super hardness!

Compare Fig. 976-A, part for part, and see why it's as nearly wear-proof, trouble-proof, and maintenance-free as any stock valve can be. Only a few of the dozen ways it's better are shown here. Get the complete story in the new folder. See why it's unrivalled for endurance and economy, —why it's your best buy in plug-type valves! Use coupon.

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal.

LOOK FOR THIS DIAMOND MARK

SINCE 1864

JENKINS VALVES

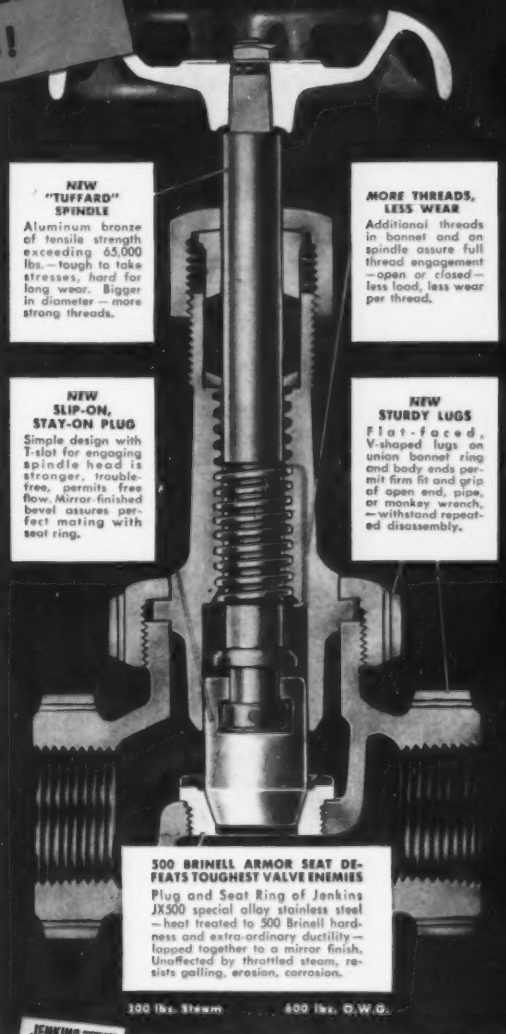
Types, Sizes, Pressures, Metals for Every Need

JENKINS Fig. 976-A

PLUG TYPE

Armor Seat

BRONZE GLOBE VALVE



NEW "TUFFARD" SPINDLE

Aluminum bronze of tensile strength exceeding 65,000 lbs.—tough to take stresses, hard for long wear. Bigger in diameter—more strong threads.

MORE THREADS, LESS WEAR

Additional threads in bonnet and on spindle assure full thread engagement—open or closed—less load, less wear per thread.

NEW SLIP-ON, STAY-ON PLUG

Simple design with T-slot for engaging spindle head is stronger, trouble-free, permits free flow. Mirror-finished bevel assures perfect mating with seat ring.

NEW STURDY LUGS

Flat-faced, V-shaped lugs on union bonnet ring and body ends permit firm fit and grip of open end, pipe, or monkey wrench,—withstand repeated disassembly.

500 BRINELL ARMOR SEAT DEFEATS TOUGHEST VALVE ENEMIES

Plug and Seat Ring of Jenkins JX500 special alloy stainless steel—heat treated to 500 Brinell hardness and extra-ordinary ductility—lapped together to a mirror finish. Unaffected by throttled steam, resists galling, erosion, corrosion.

300 lbs. Steam 600 lbs. O.W.G.

GET COMPLETE DETAILS—IN THIS NEW FOLDER

Mail Coupon Today!

JENKINS BROS., 80 WHITE ST., NEW YORK 13

Please send Armor Seat Valve folder—Form 193

Name .....

Company .....

Address .....

MOBILIFT'S OPERATING SPEED PUTS HANDLING COSTS "ON ICE"!

In the materials handling field speed is not a matter of "miles per hour" but "tons per day" of materials handled.

Mobilift is designed to speed up materials handling in warehouses and production plants. Its size and shorter turning radius enables it to operate easily in crowded areas. Its gasoline engine assures full-time, heavy-duty service. The fact that it has no gears to shift speeds operation—insures more trips per hour—more tonnage per day—less cost per ton.

Mobilift's tremendous savings are helping thousands of executives to lower their "break even point" and to increase their net profits. Many have even junked expensive handling equipment to take advantage of Mobilift operation.

Sign the coupon below and let us show you how the Mighty Midget can put handling costs "on ice."

MOBILIFT CORPORATION
835 S.E. Main St., Portland 14, Oregon

Please send me your illustrated folder on Mobilift operation.

Name_____

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MOBILIFT
"The MIGHTY MIDGET"

DISTRICT SALES OFFICES

NEW YORK · CHICAGO · SAN FRANCISCO · LOS ANGELES · ATLANTA · DALLAS

Learn these Definitions

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

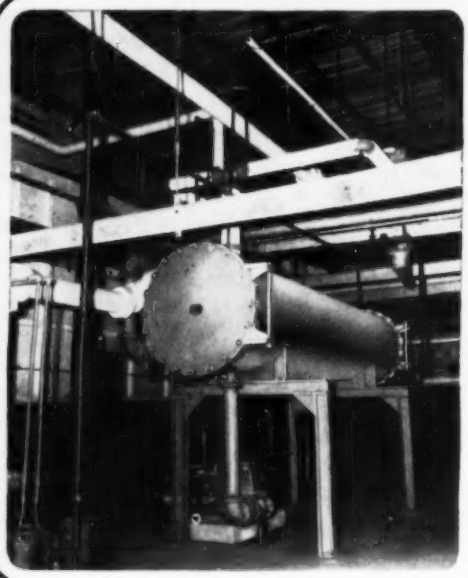
● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

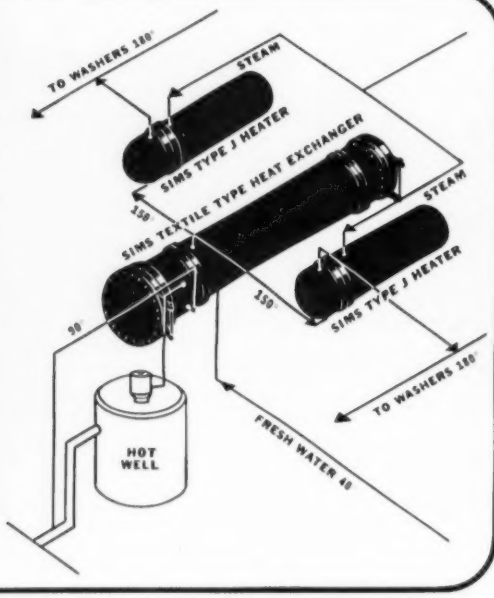
Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee
Eastman
Corporation

SUBSIDIARY OF EASTMAN KODAK COMPANY

KINGSPORT, TENNESSEE





Georgia Textile Plant orders another SIMS HEAT RECOVERY SYSTEM

TAKE time to stop profit leaks in your plant—one of the largest is found in the hot linty sewer waste water. SIMS of Erie has repeatedly proven to Textile plant operators, thru guaranteed savings, that recovered B.t.u.'s mean extra boiler horsepower. Give a SIMS Heat Recovery System your present hot sewer waste—it will deliver 180° fresh water to your washers fueled by recovered heat units. Whether your operations are large or small, if your sewer waste is 120° or over, SIMS of Erie has a real profit service to offer you at no obligation.

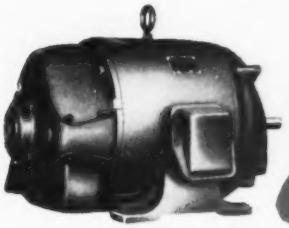
• IF YOUR SEWER WASTE *is over* **120° F.**
Consult **SIMS OF ERIE**

THE SIMS COMPANY • ERIE, PA.

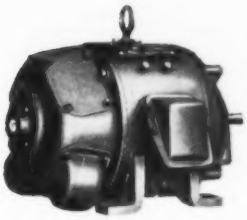
Manufacturers of Exhaust Gas Boilers • Heat Exchangers • Storage Water Heaters • Feed Water Heaters Steam Separators • Commercial Type Instantaneous Water Heaters • Oil Heaters • Quenching Oil Coolers Caustic Soda (Sodium Hydroxide NaOH) Recovery Equipment and Unit Type Coal Pulverizers

Wherever Splashing Liquids Create a Hazard...

Specify a Century SPLASH PROOF Motor



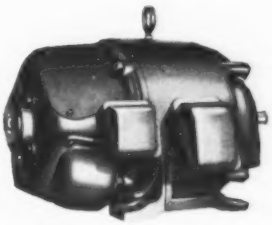
Century 7½ HP type RS Repulsion Start Induction Brush Lifting Splash Proof Motor



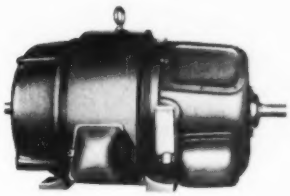
1 to 7½ HP Direct Current Splash Proof Motor

1 to 30 HP Squirrel Cage Induction 3 Phase Splash Proof Motors

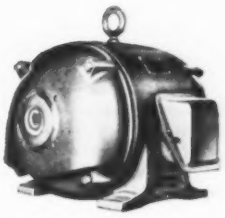
40 to 100 HP Squirrel Cage Induction 3 Phase Splash Proof Motors



3 to 25 HP Slip Ring Induction 3 Phase Splash Proof Motors



30 to 100 HP Slip Ring Induction 3 Phase Splash Proof Motors



1 to 20 HP Capacitor Start Induction Single Phase Splash Proof Motor

Century Splash Proof motor frames keep the vital parts of the motor dry—even when the full force of water from a hose is turned directly on it.

Century Splash Proof motors may help to protect the reputation of the machines you build through the protection provided in their construction—against splashing liquids, plant wash downs or falling solids.

Century Splash Proof motors are available in a wide range of types and sizes and electrical characteristics for all popular applications.

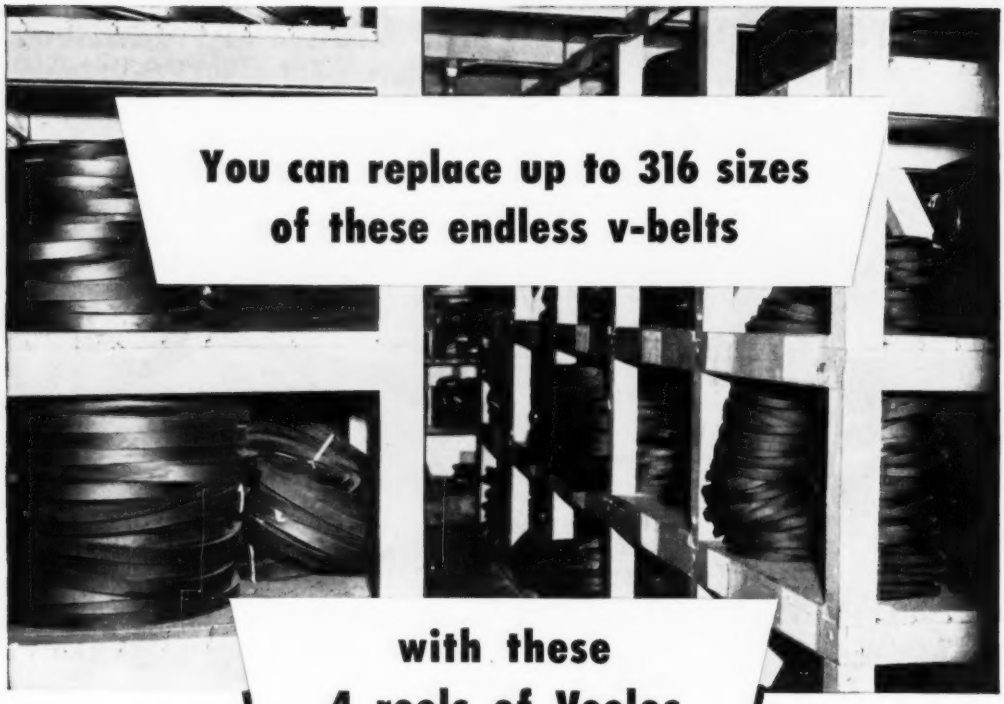
In addition, Century builds a complete line of various types of electric motors in sizes from 1/6 to 400 horsepower. Popular types and ratings are available from factory and branch office stocks.

Specify Century motors for all your electric power requirements.

CENTURY ELECTRIC CO.
1806 Pine Street
St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

Century C MOTORS



You can replace up to 316 sizes of these endless v-belts

with these 4 reels of Veelos

Just four reels of Veelos in your stockroom give you replacements for as many as 316 sizes of endless V-belts. Very likely you require less. One reel may give you a complete V-belt inventory. With Veelos, the link V-belt, any length belt is quickly uncoupled, made endless and installed. Belt replacements for any type drive are always immediately available. Standard reels hold 100 feet, save storage space.

Ease of installing Veelos provides substantial savings in installation time. On drives with fixed centers, it is installed without moving the motor or dismantling the machine.

Veelos is available in all standard sizes . . . fits all standard grooves. Sales engineers in principal cities; 350 Veelos distributors throughout the country.

VEELOS
THE LINK
V-BELT

NEW CATALOG gives you all the facts about the important advantages of Veelos and supplies complete engineering data. Fully illustrated, it shows Veelos at work in industry after industry. Your copy sent on request.

MANHEIM MANUFACTURING & BELTING COMPANY
MANHEIM, PENNSYLVANIA

VEELOS is known as VEELINK outside of the United States

ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

The bend of the beard in a spring beard needle is a factor of utmost importance in knitting fine hosiery. For only when it is exactly right—completely uniform in strength, temper, size and angle with all other needles in the bar—will it produce a perfect stitch.

Torrington has developed special precision methods for assuring complete uniformity in this detail—and *every* detail that contributes to fine quality knitting. Insist on Torrington Needles.

THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.

Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Faules, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon Street, London E. C. 2, England.

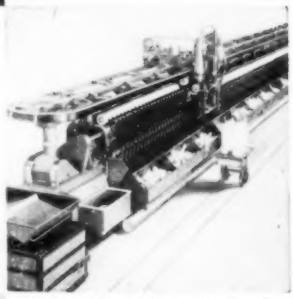
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

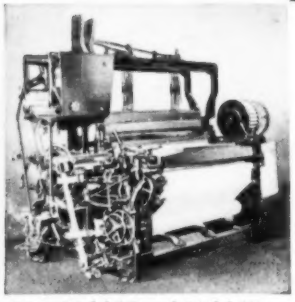
Torrington Needle Bearings help

Spin Finer - Spool Faster - Weave Better

Saco-Lowell Shops have consistently improved roving and spinning frames to make finer quality yarn. Important mechanical advances include Torrington Needle Bearing Top Rolls and Spindles. In top rolls, smoother operation and greater stability have increased uniformity of production. In spindles, Needle Bearings have helped to extend tape life and reduce oil contamination.



Barber-Colman Automatic Spoolers operate at speeds from 900 to 1200 rpm. Under these high-speed winding conditions, Needle Bearings reduce tension-building "drag," precision-stealing wear. In a compact cheese arm design, one of many applications, Needle Bearings provide the high capacity to handle heavy cheeses . . . the smooth operation needed for low uniform tension.



Draper Model XD and Model XP High-Speed Looms depend for exact tension control—vital factor in fabric quality—upon such refinements as Needle Bearings in whip roll cam followers. In ten years of service, Needle Bearings have made an enviable record. Operating at 500 to 600 rpm, they have sustained precise action, eliminating the former need for frequent replacement of worn cam follower parts.

TORRINGTON NEEDLE BEARINGS can make many textile operations more precise, smoother and more economical . . . with no major design changes in equipment.

You can reduce vibration and "lost motion" due to wear: Needle Bearings have close internal clearance and unusually long life. You can increase speeds and handle resulting loads: Needle Bearings have the speed range and capacity needed. You can simplify lubrication and cleanliness problems: Needle Bearings retain lubricant effectively and limit oil consumption.

And Needle Bearings take up little space, simplify designs, speed fabrication and assembly. Work with our engineers on details—small details that can improve operation of your equipment . . . economically. Write us today.

THE TORRINGTON COMPANY

Torrington, Conn. South Bend 21, Ind.

District Offices and Distributors in Principal Cities

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

FOR COTTONS, RAYONS, MIXED GOODS

RAPIDASE saves you money because

1—It de-sizes efficiently at high speeds.

This fast-acting enzyme is particularly adaptable for high-speed continuous de-sizing ranges, shorter time in the box or fewer ends on the jig.

2—It is effective in low concentrations.

This concentrated product can be used advantageously in concentrations as low as one tenth of 1%.

3—High temperatures can be used to increase its activity.

The starch-solubilizing action of Rapidase is doubled with each 18° rise in temperature between 120° and 200° F, permitting advantage to be taken of the increased penetration and easier removal of the decomposition products at the higher temperatures.

RAPIDASE
for de-sizing®

TECHNICIANS AVAILABLE • WRITE FOR BOOKLET

WALLERSTEIN COMPANY, INC. **180 MADISON AVENUE, NEW YORK 16, N. Y.**

BECAUSE a tremendous amount of hauling is eliminated with a Cleveland Tramrail system at one of their mills, the executives of Fieldcrest Mills, Division of Marshall Field & Company, Inc., with main offices in Spray, N. C., are enthusiastic over their overhead materials handling equipment in this mill.

Cleveland Tramrail is used in many departments. It has been found especially advantageous for the handling of beams. Since it is desirable to keep 70 to 80 warp beams ahead of the slashers, considerable space is required for their storage. Cleveland Tramrail enables them to store the beams three high when space is lacking and thereby get more beams into a given area. Also any beam can be picked up and moved direct to slashers without moving other beams on the floor.

It now takes about one-fifth the time formerly required to place beams into a slasher. It is much easier on the men, too! Possibility of strained backs is removed and safety is greatly improved.

Cleveland Tramrail is aiding dozens of textile mills accelerate production, cut costs and better working conditions.

GET THIS BOOK!

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

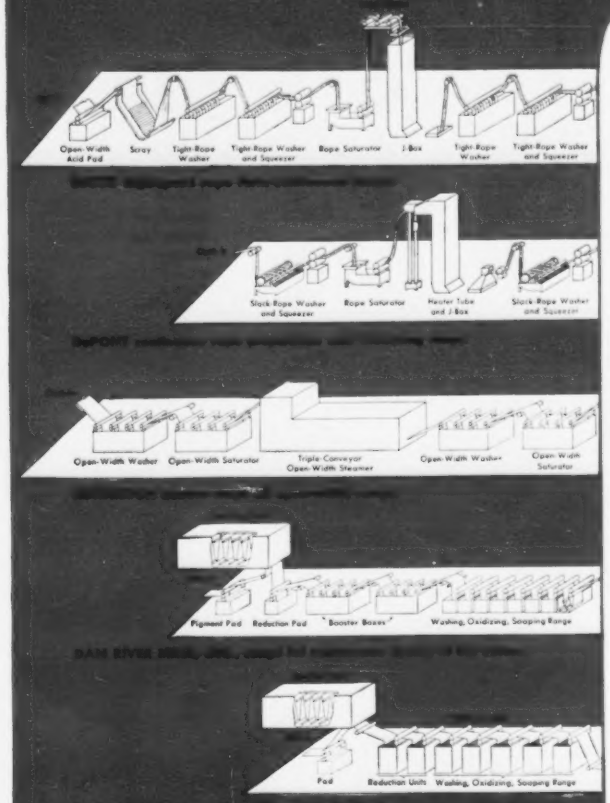
CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8468 EAST 287th STREET • WICKLIFFE, OHIO

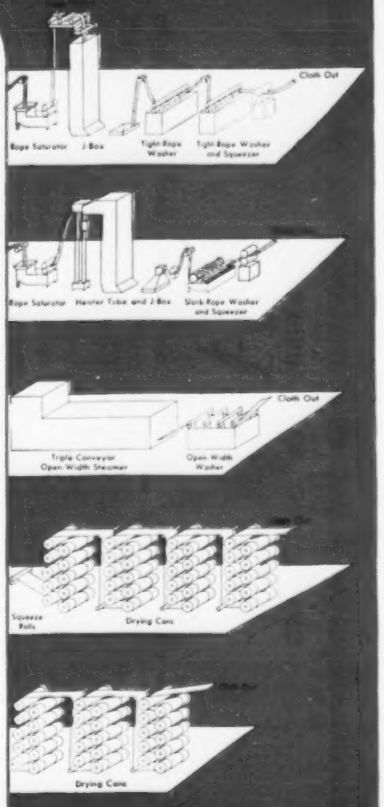
CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

RANGE DRIVES

ENGINEERED

to increase production and reduce costs . . .





Since 1927, Reliance has been engineering drives for textile ranges. Today, in the operation of any of the latest type continuous ranges, you will find in the product of this long experience—the Reliance V★S System—your key to increased production and lower costs. For further information on V★S System *All-electric, Adjustable-speed Drives for A-c. Circuits,* call in an application engineer from the nearest Reliance office.

RELIANCE ELECTRIC & ENGINEERING CO.

1086 Ivanhoe Road ● Cleveland 10, Ohio

Appleton, Wis. • Birmingham • Boston • Buffalo • Chicago • Cincinnati Dallas • Denver • Detroit • Gary • Grand Rapids • Greenville, S. C. Houston • Kansas City • Knoxville • Little Rock • Los Angeles • Milwaukee Minneapolis • New Orleans • New York • Omaha • Philadelphia • Pittsburgh Portland, Ore. • Roanoke, Va. • Rockford • St. Louis • San Francisco Seattle • Syracuse • Tampa • Tulsa • Washington, D. C. • Mexico City, Mexico • Montreal, Canada • Sao Paulo, Brazil

RELIANCE AC DC MOTORS

"Motor-Drive is More Than Power"

Sweating

is "evaporative cooling"

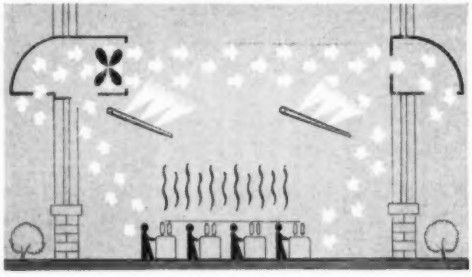
...the hard way!

AMCO EVAPORATIVE COOLING IS THE EASY, INEXPENSIVE WAY to get rid of excessive heat. Because this way doesn't take it out of the worker in sweat and dragging fatigue. It gives precise control of both humidity and temperature which makes for a better product as well as a contented worker.

You already have a part of the system... humidification. The rest can be easily added, room by room, as you need it. No cumbersome air ducts. Just an air inlet and circulating fan to draw in the correct amount of fresh air and an outlet for automatic exhaustion of excess heat and spent air through controlled vents. Adjustable for frictional heat load of each area. Maintenance kept at a minimum.

Just as simple and easy as it sounds . . . and fully automatic. Ask an AMCO engineer to show you how inexpensively you can make your mill first choice of the most efficient workers, how you can boost both production and quality by the addition of an AMCO Evaporative Cooling System to your present humidification.

AMCO Evaporative Cooling Systems work this way... *A controlled amount of fresh air is drawn into the mill and combined with some re-circulated air. Spray from atomizers introduces extra moisture, raising relative humidity to desired point. Evaporation of moisture absorbs frictional heat, thus reducing excessive room temperature. Spent air is exhausted automatically through controlled vents.*



give you all these advantages... *Increase worker comfort ↑ ↑ ↑ Reduce excessive temperature and hold relative humidity at point best suited to fibre and process ↑ ↑ ↑ Permit faster machine speeds in high friction (heat) areas ↑ ↑ ↑ Assure evener yarn counts and increase breaking strength ↑ ↑ ↑ Gradually increase regain for good roving and consequent better spinning ↑ ↑ ↑ Drafting of fibres smoother and more compact ↑ ↑ ↑ Waste and fly greatly reduced ↑ ↑ ↑ AMCO self-cleaning atomizers assure constant, full capacity delivery . . . no drip . . . no feathering down . . . minimum maintenance . . . long life.*

AMCO

HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

FAMOUS PRODUCTS GO TO MARKET IN...

GAIR CARTONS

Arrow Shirts Are Now Going to Market in a New, Improved Two Piece Folding-Box

This attractive, revolutionary box was recently designed and developed by the technical staff of Robert Gair. The new GAIRanteed features in ARROW BOXES are solving major problems of shipping, warehousing and "set-ups" . . . furthermore these innovations are providing worthwhile economies.

What GAIR accomplished with this outstanding achievement for Cluett, Peabody & Company is typical of the technical and efficient service that the ROBERT GAIR ORGANIZATION has been rendering for more than eighty years.

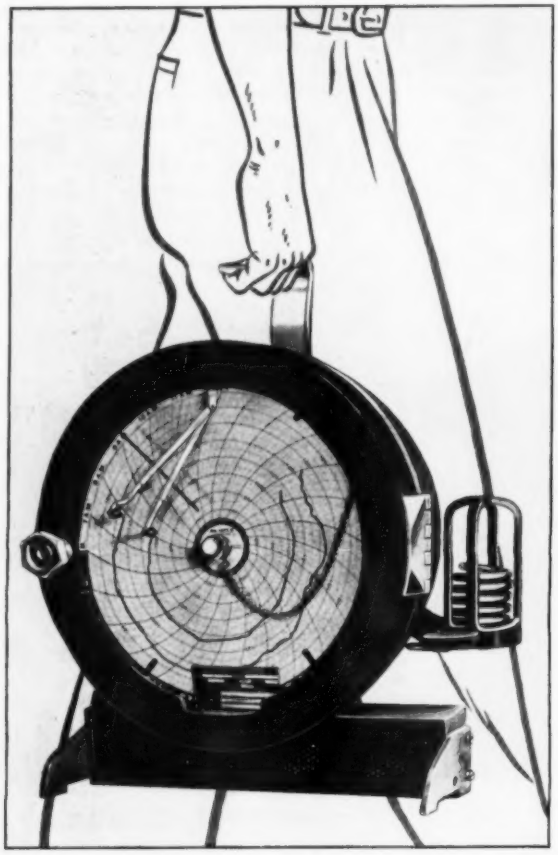
GAIR technical staff will be glad to hear about your packaging problems. Write today.

ROBERT GAIR COMPANY, INCORPORATED
NEW YORK • TORONTO
PAPERBOARD • FOLDING CARTONS • SHIPPING CONTAINERS

IT'S EASY TO CHECK TEMPERATURE and HUMIDITY

Anywhere . . . Anytime

WITH THIS LOW-COST PORTABLE RECORDER



THE Brown Temperature-Humidity Recorder is compact, light-weight, portable . . . just about the handiest instrument you ever used. Hang it on the wall to get a record on either a twenty-four hour or seven-day chart, then pick it up and take it with you to make a check in another location!

Both measuring elements are over-sized for extra sensitivity, and are located outside the case for full contact with room atmosphere. Door may be locked to prevent unauthorized access to records . . . green pen records temperature . . . purple pen records percent of relative humidity . . . 8″ diameter chart has a range of 0–100° F. and 0–100%, is easy to read.

Mail your order today . . . keep a check on your air temperature and humidity.

SPECIFY WHEN ORDERING

1. Model Number. (See table below).
2. Chart No. 1565 for 24-hour revolution; or No. 1571 for 7-day revolution.

MODEL NUMBER	DESCRIPTION	PRICE
A 6882-601	Portable Thermometer-Hygrometer (as illustrated)	$133.00
A 6881-X01	Hygrometer only	$100.00
A 6081-X01	Thermometer only	$100.00

NOTE: Above prices are for 24-hour revolution clock. Where 7-day revolution is desired, specify Chart No. 1571 and add $6.00.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
BROWN INSTRUMENTS DIVISION
4509 Wayne Avenue, Philadelphia 44, Pa.

Offices in principal cities of the U. S., Canada and throughout the world

BROWN *Advanced Instrumentation* FOR THE TEXTILE INDUSTRY
Product of MINNEAPOLIS Honeywell

BETTER

No matter what type of dyeing machine you need Van Vlaanderen makes it.

•

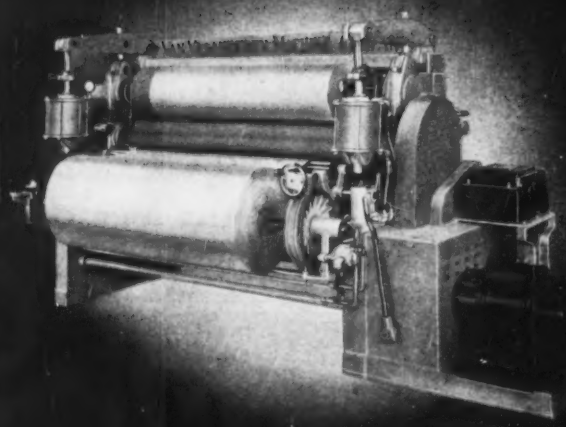
Better production and better quality of finished fabric are synonymous with the name

VAN VLAANDEREN

MACHINE COMPANY
370 STRAIGHT STREET
PATERSON 3, NEW JERSEY

•

World's largest manufacturer of machinery for processing modern fabrics



For a holiday that's really unusual, visit this unique resort blessed with an invigorating, health-building climate. Near Las Vegas is gigantic Hoover Dam, an unforgettable spectacle . . . also amazing Death Valley, a delightful oasis in colorful desert land surroundings.

Stop at Las Vegas en route to or from Los Angeles. There's a variety of Streamliner and other fine service from Chicago, St. Louis and Kansas City. You'll enjoy a restful ride over Union Pacific's smooth roadbed, plus excellent meals and service.

Write Union Pacific Railroad, Omaha 2, Nebraska, for information regarding Las Vegas.

UNION PACIFIC RAILROAD

Road of the Streamliners

. . . maybe I should have used Stainless Steel, too!

FATHER TIME certainly took a beating from Stainless Steel equipment in 1948. And his prospects look even dimmer for the future. For, with more and more long-lasting Stainless Steel being used every day, corrosion, wear, thermal stresses and hard service are meeting their match—and Time's grim harvest of prematurely worn-out equipment is getting more meager yearly.

If your equipment must handle corrosive products, has to withstand excessive wear, is exposed to extremes of temperature and pressure, Stainless Steel —and especially U·S·S Stainless—will help you resist Time's relentless challenge.

So, start 1949 *right*. Plan to extend the life of your equipment by a more extensive use of Stainless. And to take full advantage of the many benefits this versatile steel has to offer, plan to use time-tested, *perfected* U·S·S Stainless Steel. Our engineers are specialists in its application. They will gladly show you how and where to use it to give you optimum results at minimum cost.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO
CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

9-192

UNITED STATES STEEL

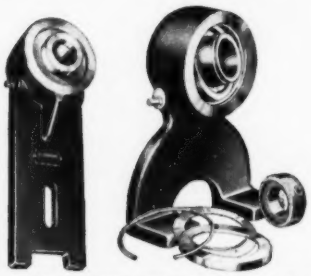
KEEP PRODUCTION UP AND DOWN-TIME DOWN

with Fafnir Ball Bearing replacement units

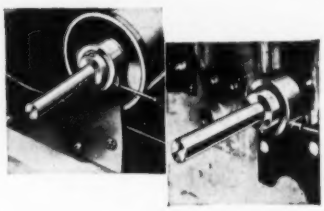
for these standard makes of spinning frames and twisters:
FALES & JENKES, MASON, HOWARD & BULLOUGH,
SACO-LOWELL, WHITIN and PRINCE-SMITH

Just look at the record . . . of these Fafnir Ball Bearing Units in America's leading textile plants. Repair time becomes production time. Lubricant and lubrication time is saved. These units need lubrication only three times a year. No oilers and no spoilage from oil. Less wear on frames, longer life for belts and more uniform speeds. Lifting the friction boosts speeds and levels them off. A ball bearing equipped frame is ready to doff fully five minutes sooner.

And the Wide Inner Ring construction of Fafnir Ball Bearing Replacement Units makes installation easy and lasting. They assemble complete onto standard shafts and lock in position with a twist of the wrist. Fafnir Units with this Wide Inner Ring feature for all standard textile machinery . . . opening, cleaning, picking, carding, drawing, roving, spinning and twisting, winding, warping, slashing, weaving and finishing equipment. The Fafnir Bearing Company, New Britain, Conn.



CYLINDER SHAFT UNITS . . . *The fact that the pull in the cylinder of the spinning or twister frame is all on one side has always been a major problem when plain bearings were used. It is no problem at all when Fafnir Ball Bearing Units are substituted. They operate efficiently in any position, without wear or vibration. That increases the life of tapes, cylinders and the whole machine.*



PITMAN ROLL UNITS . . . *These Fafnir Units are factory-packed with all the lubricant they will ever need. No oiling, no accumulation of fly, no binding of the roll, no scuffing of the cam contour. Cams last longer, bobbin build is more uniform, dragging is eliminated, builder motion is more sensitive and ring rail performance is positive.*

MOST COMPLETE LINE IN AMERICA

FAFNIR
BALL BEARINGS

What Engineers ask about

New BULL DOG V-BELTS

for use in the textile industry

Fractional Horsepower (FHP) V-Belts in Three Standard Sections. Full Range of Lengths.

Industrial V-Belts in A, B, C, D, and E Sections. Full Range of Lengths.

BWH

DEPENDABLE RUGGEDNESS

why do new BULL DOG V-BELTS have less slippage?

Exclusive BULL DOG CORDS are processed in a new way, which results in amazingly low stretch. As a result, there's less slippage, fewer adjustments, longer belt life.

why do new BULL DOG V-BELTS carry heavy power loads for longer periods?

Exclusive BULL DOG CORD SECTION has higher tensile strength. This enables Bull Dog V-Belts to absorb the shock of sudden starts and stops, to run smoothly months on end.

why do new BULL DOG V-BELTS run cool and resist flexing?

BWH laboratories developed new quality-controlled compounds for Bull Dog V-Belts. Tests prove they run cool, don't crack or deteriorate under severe flexing.

why do we say new BULL DOG V-BELTS have proved their dependability?

Like all BWH products, Bull Dog V-Belts are put through the stiffest laboratory tests. But that's only the beginning! For ten years they've been given field tests under terrific hazards. Their performance proves they've got the stuff it takes for steady, trouble-free power transmission. And since their introduction in 1948, leading industries everywhere have found this newest addition to the famous BWH line fully upholds the BWH reputation for products of dependable ruggedness.

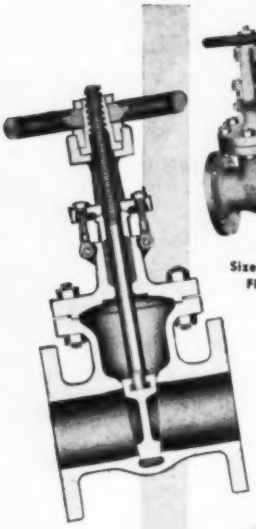
Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

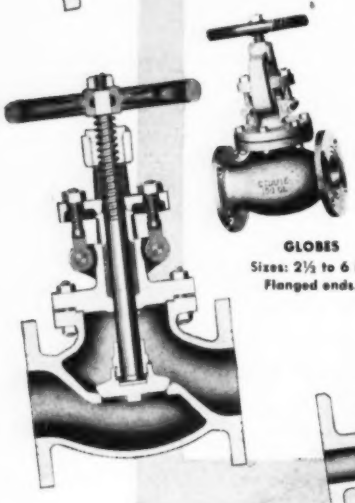
Distributors in all principal cities

PLANT: CAMBRIDGE, MASS., U. S. A. • P. O. BOX 1071, BOSTON 3, MASS.

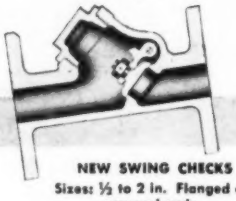
See these new CRANE Corrosion-resistant valves



GATES
Sizes: 2½ to 6 in.
Flanged ends.



GLOBES
Sizes: 2½ to 6 in.
Flanged ends.



NEW SWING CHECKS
Sizes: ½ to 2 in. Flanged or screwed ends.
Also straightway flow pattern in sizes 2½ to 6 in.

GATES, GLOBES and CHECKS in 18-8 Mo and Monel

Working Pressure: 150 pounds, liquid or gas

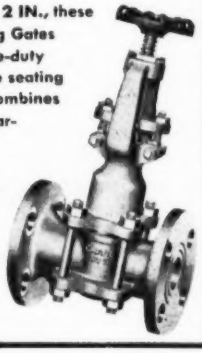
Available in either all 18-8 Mo or all Monel, these new valves are Crane Co.'s most advanced contribution toward better control of processing fluids.

In developing these valves, Crane engineers have overlooked nothing—in materials or mechanical design—that would assure the most positive performance, economical operation, and ease of maintenance. Rugged construction provides greater safety for the operator and contributes substantially to longer valve life, even under severe corrosive conditions.

Take your choice of materials. All parts in contact with flow are either Crane Quality 18-8 Mo or Monel—materials produced under the most rigid control. See these valves—the best buy in their class—at your local Crane Branch, or **ask for Catalog No. 320,** describing Crane corrosion-resistant piping materials.

CRANE CO., 836 South Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

IN SIZES ½ to 2 IN., these new Crane Plug Gates serve as double-duty valves. Unique seating development combines best service characteristics of conventional gate and globe valves. Ideal for process and chemical industries.



EVERYTHING FROM . . .

VALVES
FITTINGS
PIPE

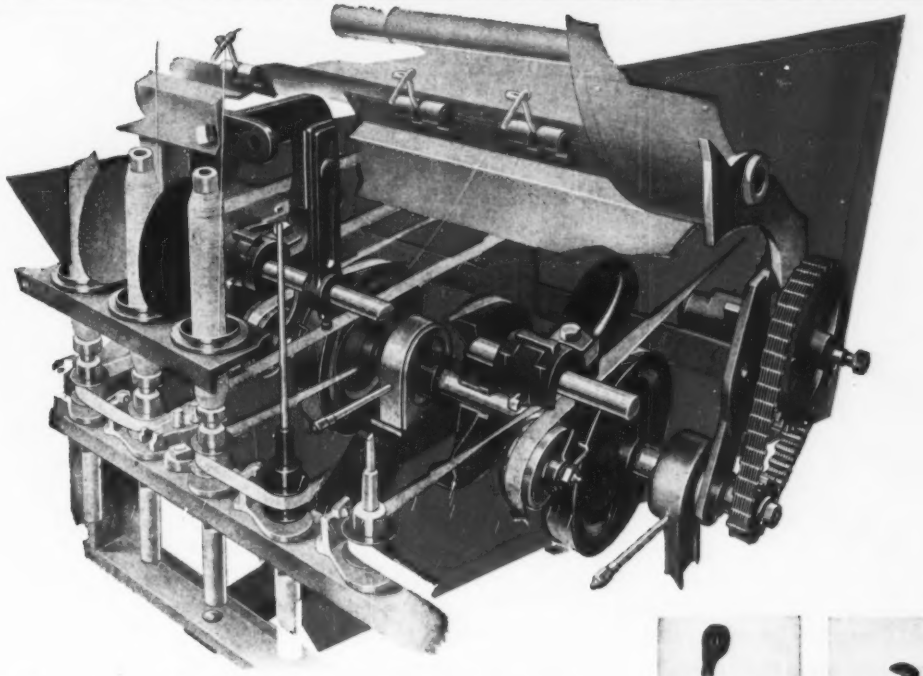
CRANE

PLUMBING
AND
HEATING

FOR EVERY PIPING SYSTEM

give your old frames that new look

with MEADOWS Conversions!



B-205

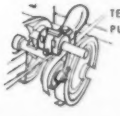
B-212-R-213

B-214-LA

B-216-LA

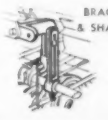
● The present cost of new frames, plus the natural desire to improve and utilize existing equipment, has prompted many mills to modernize their old frames, (either band-driven or old style tape-driven) with *Meadows Conversions*... Consisting of silent chain-drive; individual driving pulleys; high-strength ground and polished shafting (mounted on heavy duty ball bearings); ball bearing tape tension pulleys, and light weight solid aluminum alloy separators—a Meadows Conversion means less vibration, low power consumption, uniform speed and twist, fewer ends down, and *no more cylinder trouble!*... We engineer and service each installation, manufacture all parts, and will be glad to have our representatives survey and estimate your frames without obligation, in their respective territories. *More than 8 million spindles equipped with Meadows Ball Bearing Tension Pulleys.*

MEADOWS MODERNIZERS



TENSION PULLEYS

BALL BEARINGS



BRACKETS & SHAFTING

ALUMINUM SEPARATORS

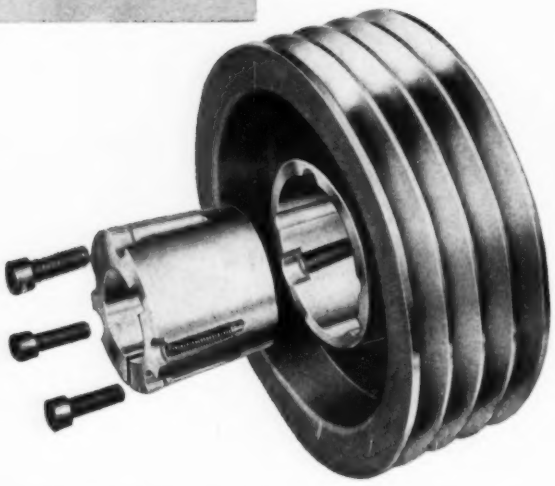
SILENT CHAIN DRIVES

MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

Representatives: **JAMES P. COLEMAN, P.O. Box 1351, Greenville, South Carolina • WALTER S. COLEMAN, P.O. Box 722, Salisbury, North Carolina • MATTHEWS EQUIPMENT COMPANY, 93-A Broadway, Providence, Rhode Island • R. L. HOLLOWAY, Atlanta, Georgia**

The simplest, surest mechanism ever devised for holding wheels to shafts

Holds fast to the shaft with firmness equivalent to a shrunk-on fit



No flange — no collar. Easy on, easy off. Slip it on and tighten while sighting

Stocked in complete range of sizes in Dual Duty (A and B); B, C and D grooves

A Great, Time-Saving Development—

TAPER-LOCK

Trade Mark

V-BELT SHEAVE

This is one of the century's biggest developments in power transmission equipment—another Dodge "first." Simpler, tighter-fitting, truer-running, infinitely easier to handle. Saves installation time and results in neater applications—in the plant or on your product.

Dodge's sole business is to "get the power through"—smoothly, steadily, economically. To succeed in this business Dodge has developed *many* products that are outstanding in the field of mechanical power transmission. Your Transmissioneer, the local Dodge Distributor, is equipped to give you valuable information on new and better ways to transmit power.

DODGE MANUFACTURING CORPORATION, MISHAWAKA, IND.

DODGE

of Mishawaka, Ind.

OTHER DODGE "FIRSTS"

Dodge-Timken Bearing. 4 basic types in a vast range of sizes.

Taper-Lock Flexible Coupling. Ready to install without reboring.

Rolling Grip Clutch. No toggles! Flexible. Positive.

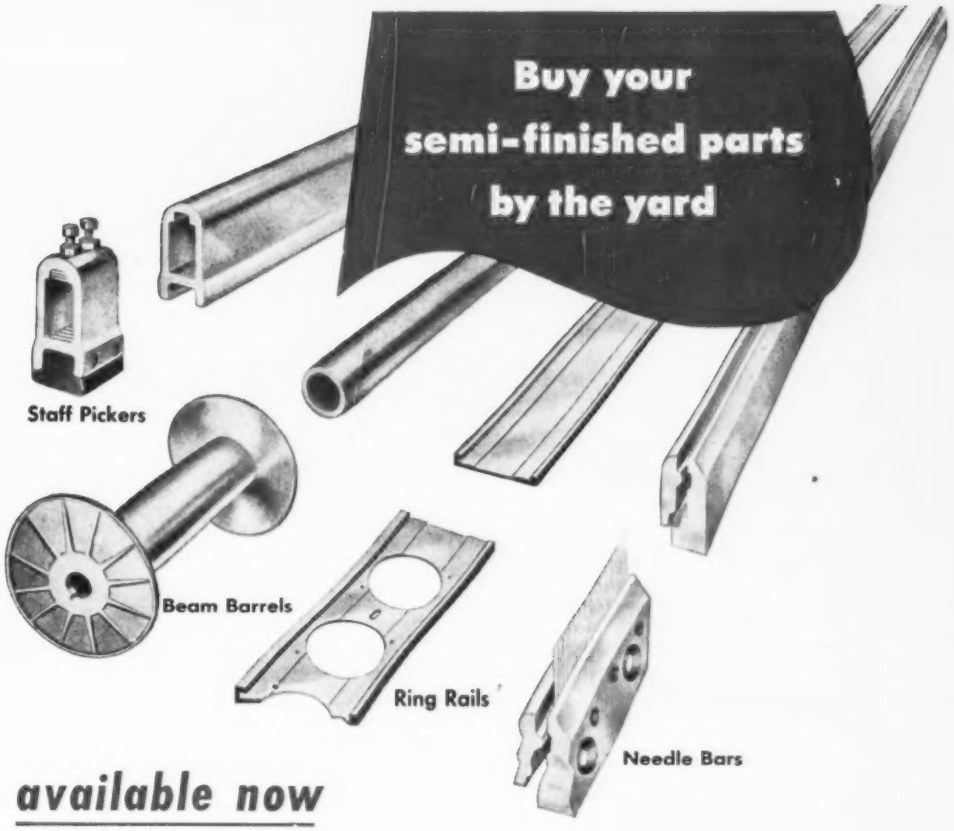
"SC" Ball Bearing with new Neoprene metallic-backed seals.

CALL THE TRANSMISSIONEER

Look for the name of the Transmissioneer, your local Dodge distributor, under "Power Transmission Equipment" in your classified telephone directory.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS



available now

magnesium extrusions slash machining costs

Get the double economy of Alcoa Magnesium Extrusions in your machinery parts. Machining is cheaper, for your materials come semifinished with high dimensional fidelity. Many times, only cutting off, drilling and tapping are needed to make a finished part . . . saves fabricating or hogging away metal. You're ahead in material and man hours.

Light magnesium parts save operating costs in machines, too. They're 35% lighter than aluminum, 75% lighter than heavy metals. Save power, permit higher machine speeds, lessen wear and vibration. Magnesium parts are stable and strong.

Delivery is prompt. Order from your nearby Alcoa sales office. Or call ALUMINUM COMPANY OF AMERICA, sales agent for American Magnesium Products, 1942 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA

FIRST IN LIGHT METALS

Radiant ceramic GAS burners (arrows) arranged to increase drying speed of battery of steam dryers

Gas-fired curing unit used in curing resin treated fabrics

TEXTILE PROCESSORS, reporting on the advantages of GAS as a production-line fuel, emphasize their outstanding success in—

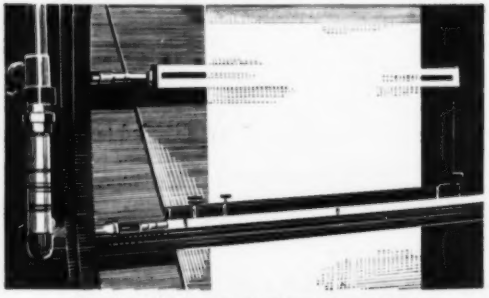
- **Reducing Costs**
- **Increasing Capacity**
- **Improving Fabrics**

There are many advantages to be gained from the use of GAS in textile processing. One of the most important characteristics is the flexibility of GAS —a feature which permits its use as an accessory with existing equipment, or as a complete unit in modern production-line processes.

For drying, singeing, polymerizing, sizing, calendering, pressing, there's no fuel comparable to GAS for automatic controllability, economy, cleanliness. Wherever you need heat for textile processing there's a task for GAS and a place for modern Gas Equipment.

You'll find modern Gas Water Heating Equipment worth investigating, too.

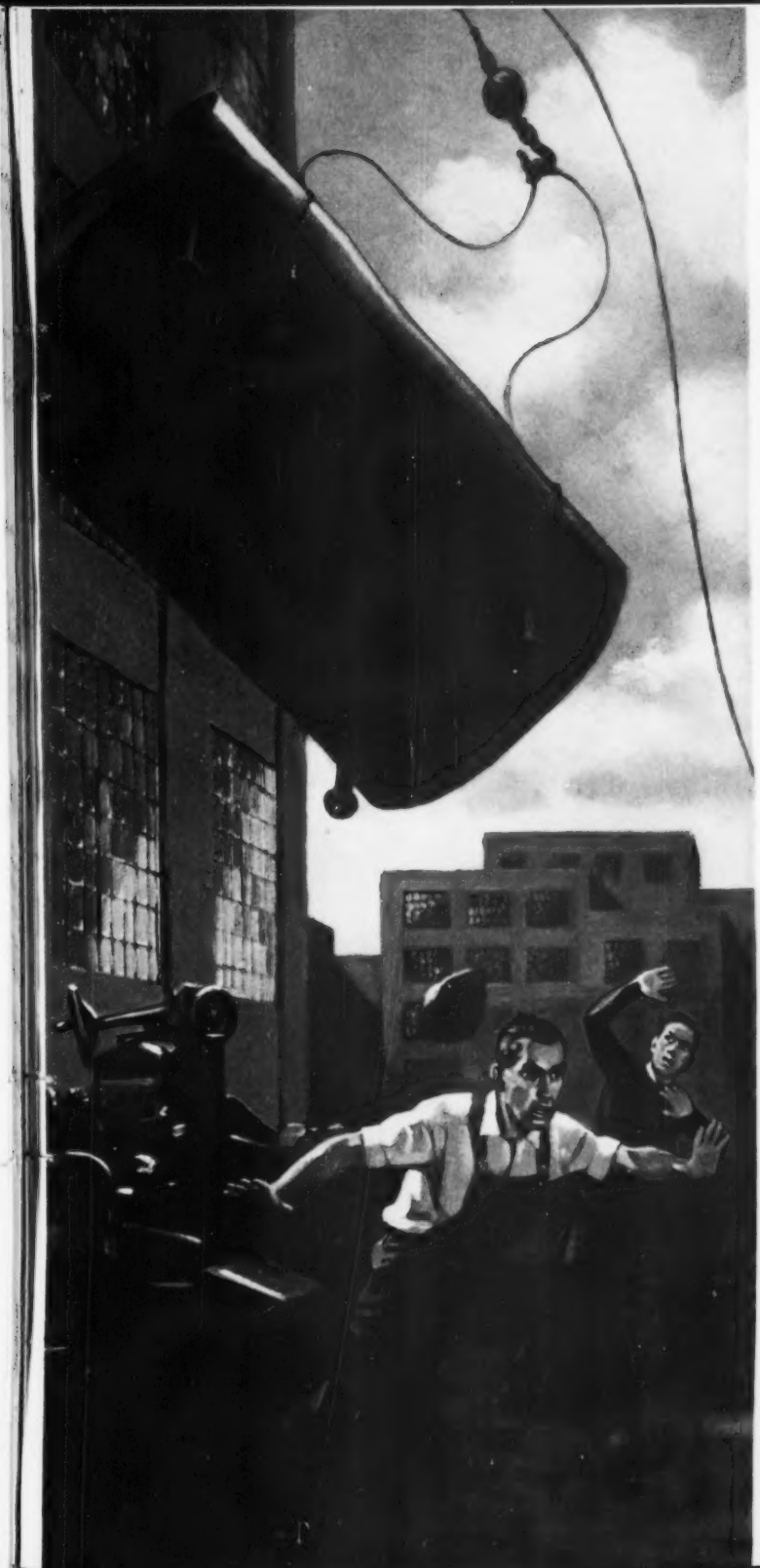
Slasher used in cotton processing, showing yarn leaving Gas-fired drying chamber



Singeing of cotton cloth of varying weights is readily possible with automatically controlled, radiant ceramic GAS burners

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N.Y.



"Our Future Came Crashing Down"

Tom Jordan and I were partners in the steel erection business. It was our tenth year of hoisting girders, tanks, trusses and sheet plate into position for new machines and installations. We had made a tidy sum during those years. Tom had taken his family on a cruise to Havana and had bought an expensive racing horse among other things.

Our hoists, winches and trucks were beginning to show signs of wear. When I asked Tom about getting some new equipment, he disagreed.

"Let's get another year's use out of that stuff before we replace it," he advised.

A week later, our crew was moving a steel tank into a crowded third story plant. Half-way up, a gear on the truck winch sheared without warning. Tons of steel came crashing down on several uncrated precision machines below and reduced the tank and machinery to a rubble of wreckage.

We sold everything we had to pay for the damage. We gambled a business on worn equipment and lost.

Take a look at your last Financial Statement. Do you really have the money that you charged off for Depreciation in the past years? Is it part of your "current" assets . . . or is it earmarked as a separate fund under "fixed" assets?

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.

Flexibility when it's needed

Textile Spring-Beard Needles have the proper degree of flexibility so vitally needed to absorb pulling of yarn and constant pressing motions. A special steel formula, that makes it possible to achieve exactly the right tempering of the needles, results in finer fabrics at a lower unit cost.

Textile's quality controls—automatic and electronic—assure you of getting only the finest needles that measure up to every rigid test. Through unerring controls, Textile Spring-Beard Needles can be relied upon for better performance in more even stitches and improved knitting results.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Here's the story on the PROVED loom motor

HOW IT.....

- Delivers more power to the loom
- Consumes fewer power dollars
- Lowers maintenance costs
- Has a longer, efficient life
- Operates coolly . . . and
- Pays dividends in better loom efficiency

YOU CAN BE SURE IF IT'S Westinghouse

Here are pertinent facts about the Westinghouse Loom Motor . . . the *proved* loom motor, developed co-operatively by Westinghouse and leading loom manufacturers. Many years of successful operation in thousands of textile mills prove its ability to give you the kind of performance you want. That's why you'll want the complete story in bulletin B-3778, just off the press. To get your copy call your nearest Westinghouse office or write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-21490

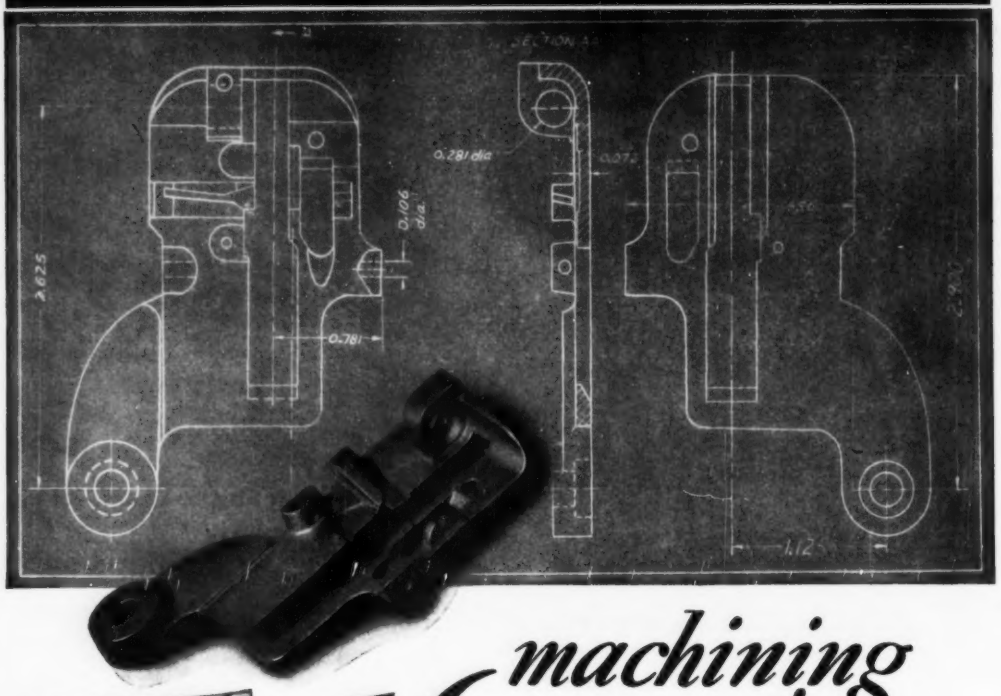
Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Loom Motors

MISCO *Precision* CASTINGS

CARBON AND STAINLESS STEEL

CAST TO MICROMETER TOLERANCES



56 *machining operations eliminated*

SEND FOR THIS BOOKLET

Provides you with valuable and essential precision casting data

The striking qualities of the Misco Precision Casting Process are fully described in our 20-page booklet. Compiled to present the latest development in precision-casting to industries requiring small, accurate, steel parts in large quantities. It's new, complete, and authoritative. Write for your copy now.

The illustration shows a Misco Precision Cast stainless steel machine part, cast to dimensional tolerances of ± .004″ per linear inch. 56 separate operations are saved as compared to the old method of machining a forging. Forging die expenses are eliminated and valuable machines and equipment are freed for other production. Tooling cost for Misco Precision Castings is extremely low and large scale production can be scheduled for quick delivery. Misco materials include high strength hardenable alloys—wear resisting—heat and corrosion resisting steels. Our engineering department will gladly assist with your design, production and material problems. Your inquiries will receive prompt attention.

PRECISION CASTING DIVISION
Michigan Steel Casting Company

MISCO
Heat and Corrosion Resistant Alloys

One of the World's Pioneer Producers and Distributors of Heat and Corrosion Resisting Alloys

1996 GUOIN STREET • DETROIT 7, MICHIGAN

LFP Southern Shuttles

are one DEFINITE means of modernizing all your old bobbin changing looms at lowest cost.

WHAT IT ACCOMPLISHES —

Permits increasing bobbin capacity with practically the same size shuttle fitted to your present lay-end boxes

ADVANTAGES —

Eliminates costly replacement of lay-ends or new lays — No lengthy change-over time — No shifting of looms—No greater floor space required — No leasing and rewarping — No loss of production.

Can be applied to any loom using yarn counts applicable to longer bobbins.

All the "down the line" savings effected by using fewer bobbins in spinning and weaving.

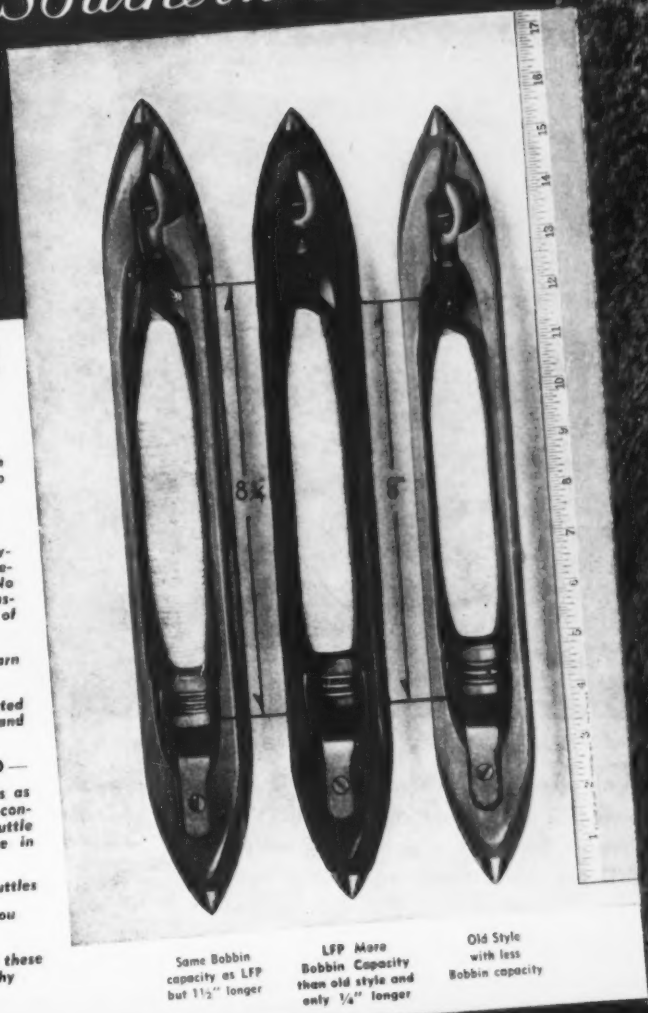
HOW THIS IS ACCOMPLISHED —

By a shorter eye with same features as long eye — Compact high speed tip construction — Structural design of shuttle strengthened — Minimum increase in shuttle length.

Standardize on Greater Capacity Shuttles

Have our Shuttle service men give you complete details

Compare the LFP way with all these advantages to the costly and lengthy changeover method.



Same Bobbin capacity as LFP but 1½" longer

LFP More Bobbin Capacity than old style and only ¼" longer

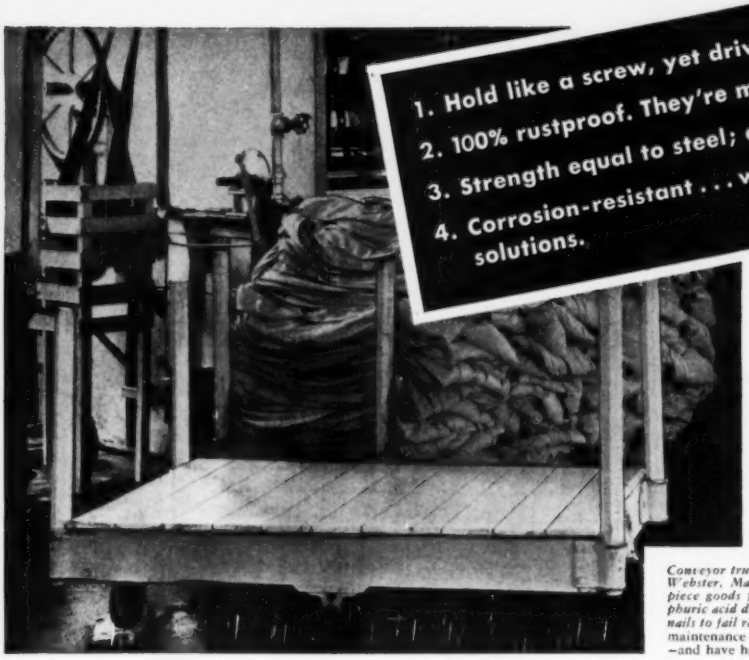
Old Style with less Bobbin capacity

Southern Shuttles Division

STEEL HEDDLE MFG. CO.

A new, modern, Shuttle Mfg. Plant is now in full operation at Paris, S. C.

You get 4-Way Protection PLUS Economy with ANCHORFAST NAILS


1. Hold like a screw, yet drive like a nail.
2. 100% rustproof. They're made of MONEL.
3. Strength equal to steel; extra stiffness.
4. Corrosion-resistant . . . won't contaminate solutions.

Conveyor trucks in service at Packard Mills, Inc., of Webster, Mass. These trucks are used to transport piece goods from scouring room to dye house. Sulphuric acid drippings from the goods caused ordinary nails to fail rapidly in this application. Packard Mills maintenance men switched to 2" Anchorfast Nails —and have had no further corrosion troubles!

With *Anchorfast*† *Nails*, you get the holding power of a screw at the cost of a nail. You may eliminate hole-drilling and setting compounds. AND you get outstanding protection from rust and corrosion.

These are the features that make *Anchorfast Nails* favored fastenings among textile processors.

Because they're made of rustproof, corrosion-resistant MONEL*, *Anchorfast Nails can't* rust or harmfully contaminate solutions.

Their extra stiffness means less spoilage under the hammer. Still another valuable feature . . . the special annular grooves around the shank of *Anchorfast Nails* prevent "pulling out" caused by alternate swelling and shrinking of the wood. This makes it possible to use *Anchorfasts* in conditions of sharply varying humidity where ordinary nails would fail.

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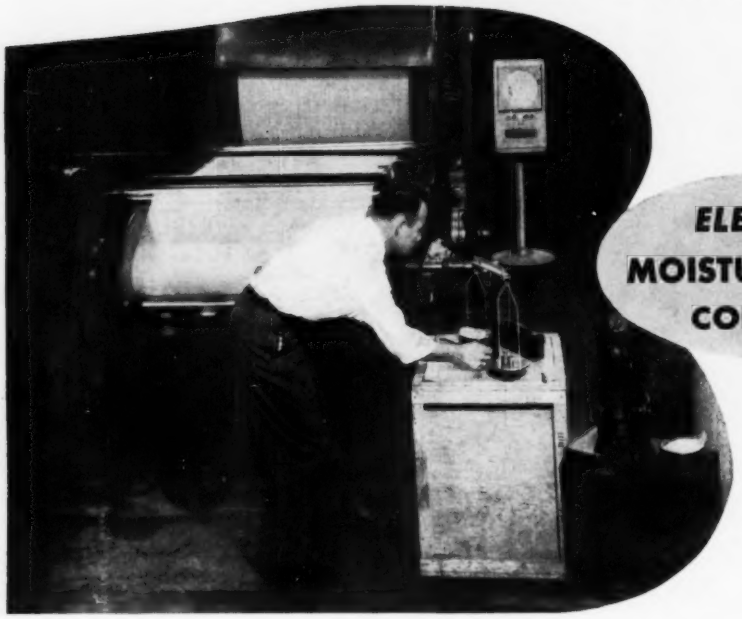

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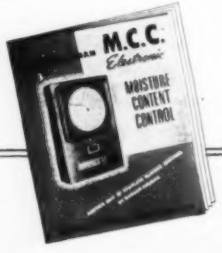

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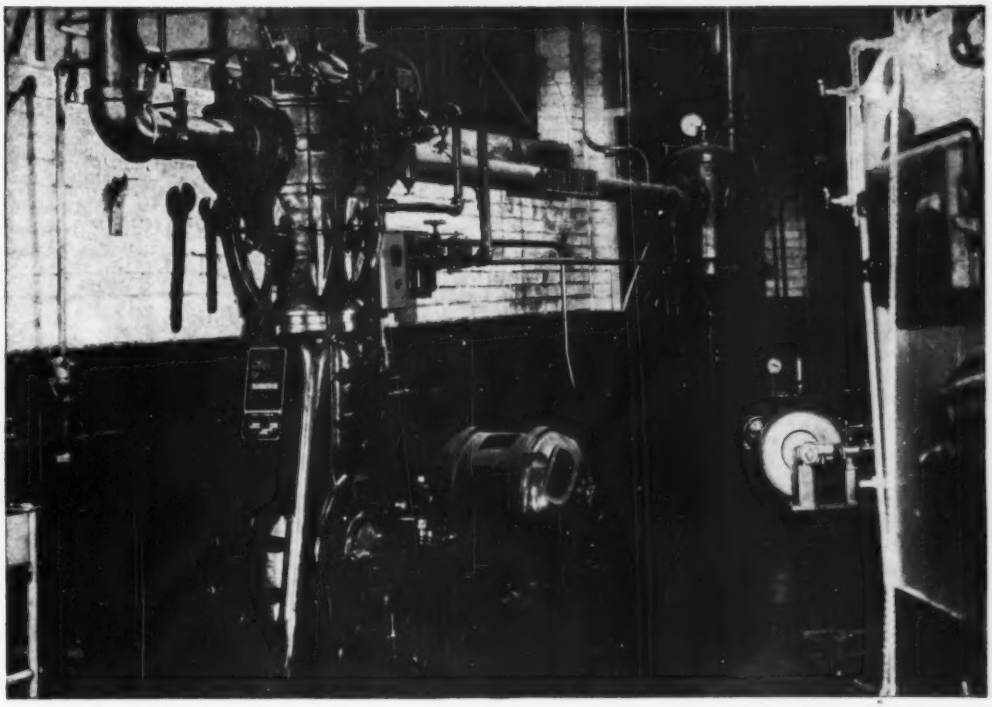

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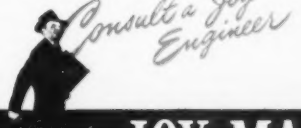

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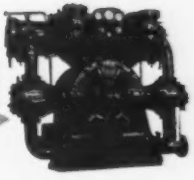

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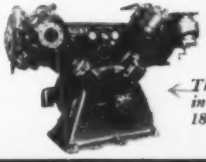

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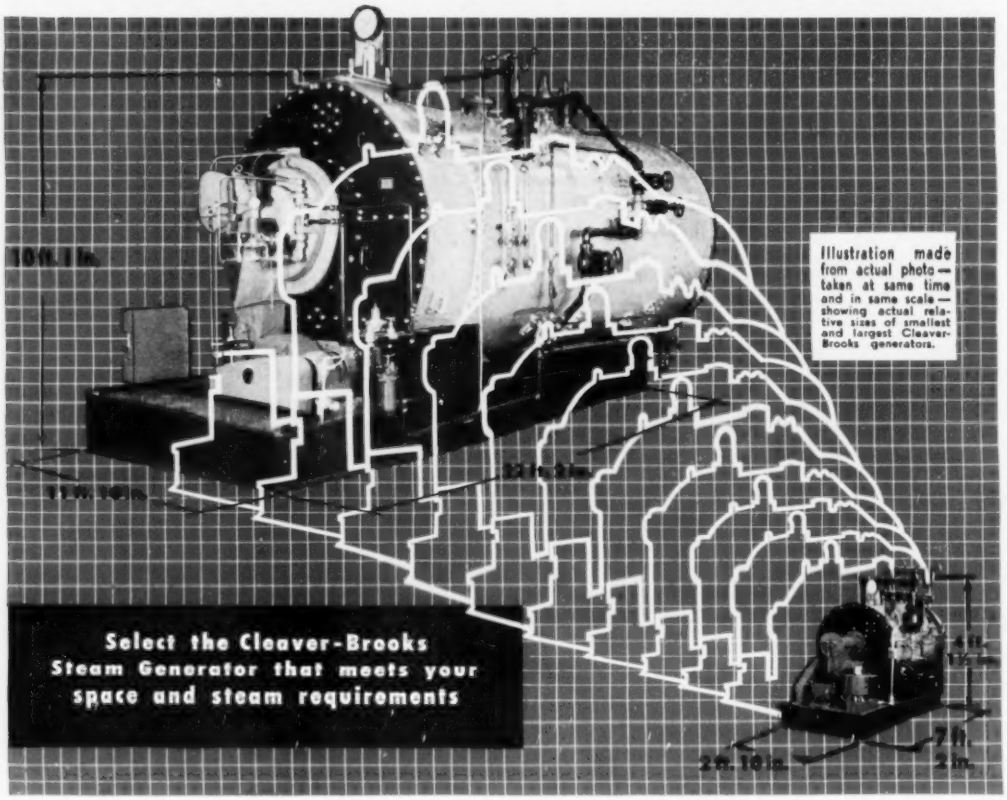
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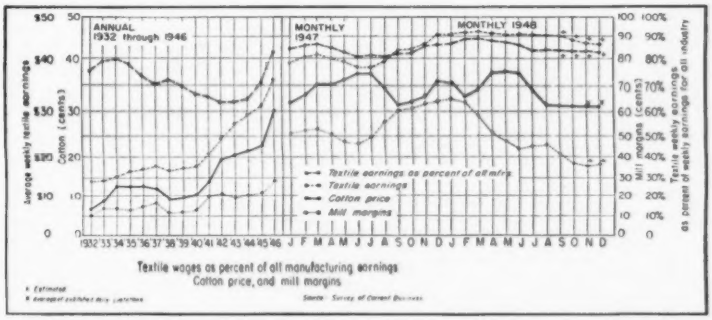

ANNUAL 1932 through 1946
MONTHLY 1947
MONTHLY 1948
Average weekly textile earnings
Cotton (cents)
Mill margins (cents)
Textile weekly earnings as percent of weekly earnings for all industry
Textile earnings as percent of all mfg
Textile earnings
Cotton price
Mill margins
1932 33 34 35 36 37 38 39 40 41 42 43 44 45 46 J F M A M J J A S O N D J F M A M J J A S O N D
Textile wages as percent of all manufacturing earnings
Cotton price, and mill margins

Decline in mill margins in 1948 is shown in this chart prepared by J. B. Hosmer, consulting economist, Decatur, Ga. With wages relatively steady, the decline in cotton price did not keep pace with decline in goods price.

1948's TEXTILE ACHIEVEMENTS

Can Be Matched in 1949

By WILLIAM B. DALL

Managing Editor, TEXTILE WORLD

WITH A BANNER YEAR in textiles behind them, economists and many textile executives are in agreement that business, at least for the first nine months of 1949, will be generally good, although profits will be somewhat curtailed from recent years. This brief general summary fails to give recognition to the increased effort which is counted upon to make such a forecast come true. Relaxation anywhere along the line—in public relations, politics, plant efficiency, merchandising foresight, modernization, and research in all its phases—would generate a weak spot; and too many weak spots would upset the calculations of the forecasters.

Details of the progress achieved in 1948 and the problems and opportunities of 1949 in U. S. and the world at large are given on the pages which follow. This annual summation covers in retrospect what is probably the most active and fruitful year ever experienced by textiles, all things considered. Not only was volume of business well up with the war and immediate postwar years, but capital investment in plant and equipment reached all-time highs. The rate of introduction of newly engineered production machinery was accelerated almost to the pace promised in that golden future of peace and prosperity which some hoped would follow the war. Mill interest in these new and more efficient devices has been stimulated by knowledge that saving in labor cost is the one tangible assurance of survival as competition squeezes.

HARD, COLD CASH. This mill interest has not been merely academic. It has been backed by expenditure of hard, cold cash in 1948 to the extent of close to half a billion dollars. A recent McGraw-Hill survey places 1948 textile expenditures at $450,000,000, and TEXTILE WORLD's November estimate of expenditures and commitments exceeded $500,000,000. These figures are the climax of four big-spending years, each higher by 20 to 40% than the year before. A first-hand survey just completed by the McGraw-Hill Economics Department of a large sample of textile manufacturers gives evidence that 1949 will be close to par with 1948 in the matter of investment in new equipment and buildings. The actual figures record a dip of about 4%, but when recognition is given to the fact that numerous replies indicated that figures reported were only the presently assured part of 1949 plans and that further investments were likely as the result of plans yet to be crystallized, it is manifest that actual 1949 figures may even exceed 1948's high totals.

By branches of the industry, returns from wool mills and from finishers of cottons and rayons indicate that expenditures somewhat greater than 1948 are currently being planned for 1949; rayon-weaving mills will spend about the same; cotton and knitting mills will spend somewhat less.

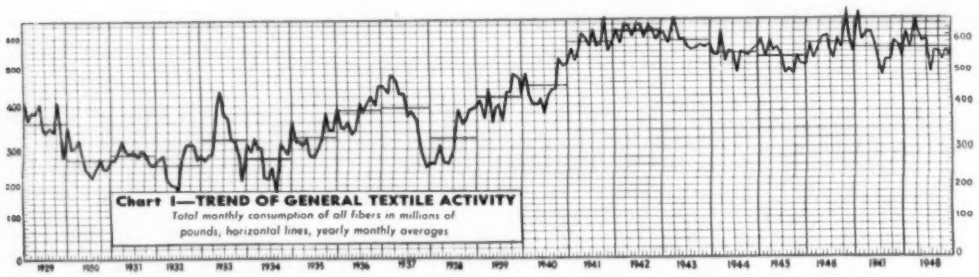
The TEXTILE WORLD estimate of capital investment and commitments undertaken by the industry in 1948, covering buildings, equipment, etc., but excluding currently consumed supplies, maintenance, etc., showed a gain of 20% over 1947. A survey of machinery, equipment, and supply firms (see page 107) indicates that they sold to the industry in 1948 16% more equipment, materials, and supplies (measured in dollars and including currently consumed items but not textile raw materials) than were sold in 1947.

Mill activity in 1948 according to the TEXTILE WORLD index (see page 104) was 1.6% above 1947 and hit almost exactly the average for the period 1941-1948. This high plateau of wartime and postwar production is 85% above the average for eight prewar years, 1931-1938.

THINGS TO MEET. All of this evidence compels the conclusion that 1948 is the climax to date of textile activity, modernization, and engineering progress. To continue superlatives in the record for 1949 would probably be difficult, even if textile manufacturers were in sole command of their own destiny. Actually, this destiny is going to be colored by lots of things the average textile manufacturer regards hostilely and with re-

pugnance—notably subnormal tariffs reached through "trade agreements," magnified taxes on companies and individuals due to increased government spending, loss of many of the constructive elements in the Taft-Hartley Law as result of campaign promises to labor, and a gradual catching-up of supply with demand. Over all, the international battle of ideologies persists with its constant threat to break into a shooting war. This hazard keeps in constant involvement many agencies and executives that could better be devoting time and thought to purely internal affairs.

All of these things have to be lived with in 1949, and mill policy and action must be shaped to meet them with the least shock. Many of them are old acquaintances, and familiarity should make the problems involved not impossibly difficult. George Harris, president of Dan River Mills, urged the industry at the Cotton-Textile Institute meeting last fall to face its problems with a united front. That is probably a good slogan for 1949. With steady and well-directed work, it can be an excellent year.



1949 TEXTILE OUTPUT

Should Run Close to 1948 Figures

HIGHLIGHTS: Readjustment achieved in last quarter of 1948 is one basis for early 1949 strength—Trend of general business will be keynote of textile developments—Government activities are important factor—Narrower profit margins in most textiles—Minor differences in pattern among various branches of the industry.

By SANFORD S. PARKER
McGraw-Hill Economics Staff

WHAT'S AHEAD for the textile industry in 1949?

That question is made more difficult by the two outstanding facts in the industry's 1948 record:

1. For the year as a whole, the industry boasted banner business.
2. But in the closing months of 1948, most branches made a major readjustment to lower prices, production, and profits.

The outlook for 1949, however, is favorable—in spite of the slump. The industry can expect to recover from the letdown, as it did from the mid-1947 setback. General business in the U.S. promises to be good, with full employment continuing at least until Labor Day. Continuing prosperity should help bring recovery to textiles—although it probably will not carry the industry back to the peaks it reached after the 1947 dip.

Production in 1949 is likely to be close to 1948 volume. But prices and profits are likely to be under pressure. They probably will not match those for 1948.

TEXTILE WORLD
Textile Mill Activity Index

1923-25 average = 100

1929	115	1939	132
1930	89	1940	142
1931	93	1941	188
1932	83	1942	198
1933	104	1943	189
1934	90	1944	177
1935	105	1945	173
1936	124	1946	187
1937	125	1947	182
1938	103	1948	185

Within this over-all perspective, the several branches of the industry have gone—and will go—their individual ways. Mill men must look to the broad trends—but they cannot afford to ignore the patterns peculiar to their own fields. We shall take them up later in this forecast.

YEAR IN REVIEW. History now bears out TEXTILE WORLD's February, 1948, forecast that the "textile production plateau will run for another year." Its index of textile activity, based on poundage of fibers consumed, last year ran 1.6% higher than in 1947. Cotton and wool yardage for the year just about equaled 1947 levels. Rayon gained again, and most knitwear lines matched or topped year-ago performances.

Though lower at the close than at the beginning in some lines, prices for the full year averaged higher than in 1947 by 2 to 12% among major items. With output large and prices high, profit totals neared 1947 records. There were, of course, variations among important branches of the industry.

TEXTILE WORLD's prediction of a readjustment between textile values

and general business also was borne out after midyear. A year ago, TEXTILE WORLD noted that "the value of textile production seems too high for the national income." Despite an 8% rise in national income during 1948, textile values had to come down sooner or later.

This readjustment involved some sharp declines in both output and prices. In the fourth quarter, wool activity dropped 20% and cottons fell almost 10% below a year ago. Even rayon-goods production slowed a bit. Prices of cotton constructions fell off an average of 15 to 20% between the spring peak and the year-end. Rayon fabrics suffered the same sort of letdown. Wool-cloth prices sagged in secondary markets, if not at the mill level.

A variety of factors joined to touch off and then deepen this readjustment. For example, a bumper cotton crop forced raw-cotton prices down to government-support levels. This contributed to reductions in cloth prices. But most of the readjustment story is told in the fact that supplies of textile products were increasing while demand for them was falling.

Supplies of cotton textiles increased because exports of cotton cloth declined almost one-half from 1947 while output gained a bit over that year. This enlarged supplies available for domestic distribution by 5 to 10%. Wool cloth production gained over 5% during the first three quarters of 1948. Yardage of rayon fabrics advanced 15 to 20%. Some individual items made less spectacular gains —for example, shipments of full-fashioned hosiery were up 10%.

Meanwhile demand lagged. Spending by consumers slowed. They began to save more of their income. This was expected because savings had sunk abnormally low in the first postwar buying spree. It was an inevitable adjustment, and it is healthy for American business in the long run. But in 1948, it pinched some retail lines, such as men's wear. And, coupled with unusually warm autumn weather, it culminated in a general decline of department-store sales during the closing months of 1948. Meanwhile, merchants' demands for goods for inventory dropped off as most distribution pipelines filled.

These changes and others added up to the readjustment of value of textile output as compared to the national income.

1949 OUTLOOK. Now, the outlook is for recovery. Last year's reaction appears to have gone too far. At the reduced output and prices of the 1948 year-end, textile values had sunk below their normal standing relative to national income. So, textile output should pick up some time in 1949 if general business, employment, and income hold to their present peak levels.

General business can be expected to keep its present high momentum throughout most and probably all of 1949. Heavy industries, particularly, boast bright prospects. Capital expenditures by business for new plant and machinery for 1949 are planned about as high as 1948 programs. The auto industry still expects to sell all the cars it can make. Construction will likely hold to its peak, as increases in public projects and commercial building offset a slight retreat in housing.

Government has a key role in the 1949 business outlook. Today, political uncertainties cloud the outlook for late months of the year. The boom will roll on through mid-1949 in large part because outlays on defense and foreign aid are rising. But, if world troubles force another big stepup in the "cold war" budget, widespread government controls might well be needed to stem inflation. On the other hand, if Washington takes a big bite out of profits by increasing corporate taxes, future capital outlays by business would be affected. No one can know now how these political uncertainties will end—or what the net effect will be on business activity.

But, even if business should slow in late 1949, it seems now to have enough strength to make the prospects for 1949 as a whole very good.

PROSPECTS BY BRANCHES. The overall business outlook is clear enough, moreover, for the textile industry to gage prospects in divisions in which specific factors play key roles.

Cottons—Prices of most constructions stabilized by the end of 1948 at levels very close to the ceiling prices last prevailing under OPA. During the year, declines from the highs ranged from as little as 4% for duck to as much as 44% for print cloths. The average 15 to 20% price readjustment in cloth was facilitated by a comparable drop in raw cotton from over 37¢ at the spring peak to about 31¢, the government support level, after the autumn harvests. But profit margins have also been narrowed.

Production was the key to the market readjustments. Output of print cloths, for example, ran 10 to 15% over 1947 (Chart III)—hence the price drop from inflated levels. In narrow sheetings, on the other hand, supply caught up with demand earlier; so production dipped below 1947 levels, while prices, already down from the peaks, eased relatively slowly. Total fabric output of about

Chart III — Cotton Woven Broad Goods

Production by Quarters

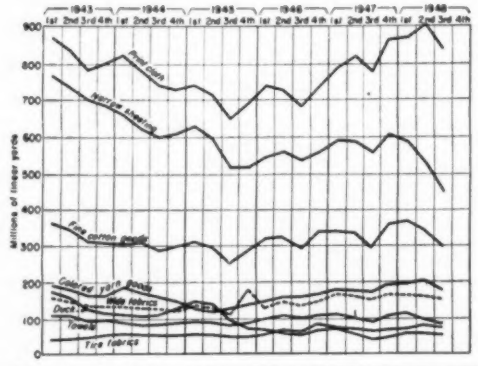


Chart IV — Woolen and Worsted Woven Goods

Production by Quarters

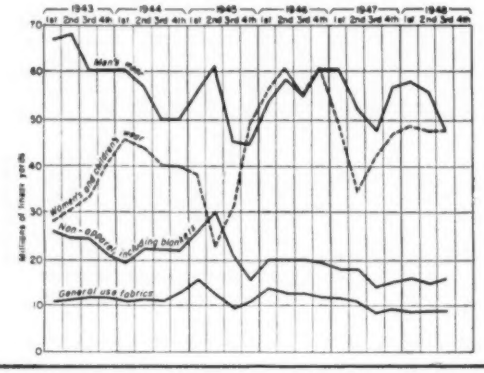
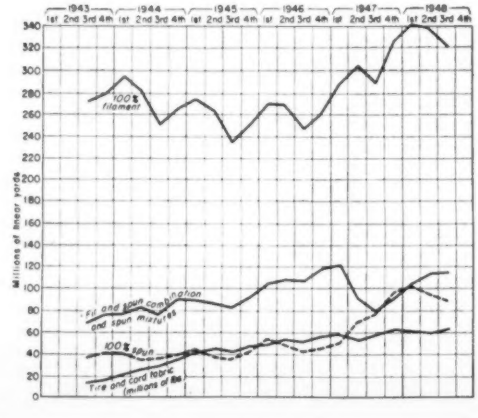


Chart V — Rayon Woven Broad Goods

Production by Quarters



9.7 billion yards held toward the high side of the forecast range of "between 9 and 10 billion yards for the year." Raw-cotton consumption dropped again in 1948, due to declining use in such things as tires and bagging.

Cotton plus rayon, excluding exports, last year again totalled about 75 yd. for each person in the country. That is about the level we have sustained in past years of high employment and income. On this basis, an approximately equal volume seems assured for 1949—or an output again in the neighborhood of 9.5 billion yards. That would mean a higher production rate than the one prevailing in late months of 1948.

Prices seem to have dropped low enough to sustain such large volume, if past relations of textile values to national income again prevail.

Rayons—Rayon prices had not made as thoroughgoing a readjustment by the year-end as cottons. Quotations had dropped sharply on finished fabrics in secondary markets, but less on cloth sales at the mill level. Rayon filament and staple prices did not change.

Production of filament and staple last year made its largest annual advance of recent years, gaining 17% over 1947. Acetate poundage rose more than 33% over 1947, as against about 10% for viscose. Staple deliveries were up 25% against less than 15% for filament yarns. The largest part of the rayon gain went into woven fabrics, though rayon also continued to make inroads on cotton in tires. However, output of spun-rayon fabrics, which earlier had climbed fastest, actually slid from its peaks in 1948 (Chart V).

Most of the materials made from the rayon types that showed the larger gains in supply have evidenced the greater price weakness—acetates as compared with viscose products, stable fibers as compared with filament yarns. Spun-rayon-fabric prices have actually dropped in recent months.

Further gains in rayon production for 1949 are assured as new facilities come into operation. However, surplus capacity may show up for the first time in some lines that recently have been heavily supplied. All markets are more competitive—and cotton is once again cheaper than rayon fiber. Hence rayon's climb this year will probably be slower than in 1948.

Wool—Doldrums in the men's-wear business have forced markdowns of fabrics in secondary markets as well as of coats and suits, but mill fabric prices have not been changed much. A key factor is the price of raw wool, which was run up almost 50% in the

year and has not yet made a definite downturn.

Weaving of both men's-wear and women's-wear fabrics in 1948 ran ahead of 1947 through most of the year (Chart IV)—only to sag in the last quarter. Some pickup is likely, but 1949 total yardage may fall short of last year because of large apparel stocks hanging over from the poor winter season at retail.

Knitwear—Most knitwear items have followed the general trends of textiles, but they have likewise shown variations from one type to another. Prices started downhill after midyear, but in general the slide was more gradual than in cottons or rayons. Production also ran ahead of 1947 in the first half of 1948, only to trail off in later months. Among rayon knit goods, warp-knit output for the year was 20% above 1947, while production on circular machines increased only 7%. In hosiery, output of full-fashioned ended 1948 higher than the year before, while women's seamless production was down. Total knitwear production for 1949 will probably match 1948 volumes.

MILL PURCHASES

Hit All-Time High

HIGHLIGHTS: In 1948 mills spent 16% more for equipment and supplies than in 1947 — Greatest increases in machines, both auxiliary and major — Supplies are more nearly level — Some gain in units —This year should approximate last.

By C. W. BENDIGO
Editor, TEXTILE WORLD

TEXTILE MILLS set another all-time record in their 1948 dollar volume of purchases of equipment and supplies. TEXTILE WORLD'S new index figure is 394, which is 54 points, or roughly 16%, above 1947 (100 represents the purchases of 1929) as shown in adjacent chart.

The big question is whether or not textile mills will continue buying at this rate during 1949. The majority of the suppliers who expressed an opinion believe that at the worst 1949 will equal 1947, which certainly can be called a good year. In some lines, mills can be counted on to take in as much in 1949 as in 1948—such things as looms and spinning equipment. The hitch, however, is that mills are not ordering at the rate they did last year.

Suppliers report that backlogs are disappearing, and much that mills want can be delivered immediately. Many stockroom items are freely available—as are many types of production equipment. In order to stimulate purchases by mills, a good many suppliers to the textile industry have plans for introduction of new items.

Good supply of some materials which mills buy, such as starch, has resulted in a decrease in price. It is expected that other decreases may follow; price increases this year, if any, are expected to be slight.

Over all, there was a price increase last year; reductions were few. The 16% gain in dollars spent, therefore, does not indicate a 16% increase in units purchased. Purchases of major machines do represent a definite increase, but insofar as general mill supplies are concerned, unit increases were small.

The political situation is credited in part for the decline in placing of orders by textile mills. Unquestionably, however, the greatest factor is the return to more normal demand for most textiles produced by mills.

SYNTHETICS BRIGHT. Textile mills have been buying large amounts of equipment to handle synthetics in both continuous-filament and staple form. This activity can be expected to continue in 1949.

Worsted mills are, apparently, buying very little equipment except machines to produce yarn on the American system and finishing equipment to enable them to produce shrink-resistant fabrics. Carpet mills do not show the decline that is indicated by other woolen and worsted manufacturers.

The highest rate of activity of purchases by textile mills has to do with auxiliary equipment—such things as materials-handling machinery, humidification equipment, and lighting. It is apparent that textile mills are still in the market for anything that will help them cut costs and improve products or working conditions. On the other hand, items which depend for their sale on the volume of textiles being produced will probably level off at something between the 1947 and 1948 figures.

A year ago, we predicted correctly that 1948 would be a better year than 1947. Our prediction for 1949 is that its dollar volume will be about the same as 1948. Something more drastic than now seems possible would be necessary for a decline to reach 10%.

The fact that some major suppliers are known to be heavily booked for 1949 indicates that nothing too bad is envisioned to hurt the purchase of supplies and equipment by mills this year. What will happen in 1950 had best be left for discussion in these columns a year from now.

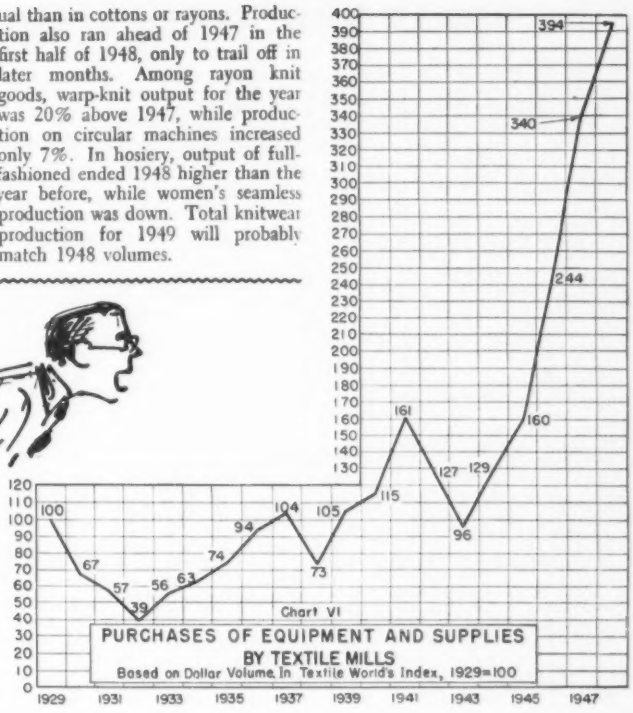


Chart VI

PURCHASES OF EQUIPMENT AND SUPPLIES BY TEXTILE MILLS

Based on Dollar Volume in Textile World's Index, 1929=100

WORLD POSITION OF TEXTILES IN 1948

THIS TABLE is based upon the most recent data available received from McGraw-Hill World News correspondents in the principal countries of the world. The data is for 1948 except in the few instances indicated by footnote references. Metric units have been converted to English units and effort has been made to indicate by footnote where other than the American custom is followed. Unless otherwise noted, "yards" are linear yards.

	The Americas										Africa		Oceania	
	Argentina	Bolivia	Brazil	Canada	Dominican Republic	Guatemala	Mexico	Peru	United States	Uruguay	Egypt[2]	South Africa[3]	Australia	New Zealand[3]
COTTON YARN														
Spindles (mil.)	0.5	0.02	3.1	1.1	0.003	—	1.1	0.2	23.8	0.04	0.5	0.03	0.2	0
Production (mil. lb.)	176	—	370	183	0.3	1.9	104	22	4,250[5]	13	119	12.6	27	0
Imports (mil. lb.)	11	—	0.5	9	—	0.7	12	0.5	2.4	0.6	0.6	—	6.5	1.7
Exports (mil. lb.)	0	—	3.0	0	0	0	0.1	0	27.5	0	0.02	—	—	0
COTTON CLOTH														
Looms (thous.)	18.0	1.0	96.8	21	0.1	—	47	6.2	392	—	15	1.5	3.3	0
Production (mil. yd.)	198[1]	17	1,241	271	0.7	2.5	118[1]	92.5	9,927	—	232	—	24[2]	0
Imports (mil. yd.)	33[1]	—	1.1	36	15.4	4.9[1]	7[1]	0.2[1]	45.6[2]	2.2[1]	30	—	98.8[2]	37.8
Exports (mil. yd.)	0	—	14.9	10	0	0	25[1]	0	850[2]	0	0.06	—	16.0[2]	0
WOOL YARN														
Spindles (thous.)	400	14.6	89	300	0	—	299	20	3,460	0.07	30	—	386	69.3
Production (mil. lb.)	61.7	—	16.6	18.4	—	0	57.2	1.2	777	—	6.6	—	50	1.5
Imports (mil. lb.)	6.6	—	0.6	23	—	0	15.9	0.4	1.0	0	0.6	—	0.02	1.6
Exports (mil. lb.)	0	—	0.06	0	0	0	1.9	0	1.0	0.6	0.6	—	2.0	0
WOOL CLOTH														
Looms (thous.)	5.2	0.2	3.4	3.9	0	—	9	0.6	38.4	1.3	0.5	—	5	0.6
Production (mil. yd.)	68.4[2]	1.4	14.8	11.4	—	0.08	53.5[2]	2.6	475	—	4.0	—	34[2]	3.0
Imports (mil. yd.)	2.9[2]	—	1.7	14.0	—	0.2[1]	3.7[1]	0.3[1]	3.3[1]	0.5[1]	5.4	—	1.0[2]	5.8
Exports (mil. yd.)	0	—	0	0.09	0	0.05[1]	7.1[2]	0	3.4	0.2[1]	0.03	—	2.9[2]	0
SYNTHETICS (Filament)														
Production (mil. lb.)	10.6	0	29.7	31	0	0	32.6	0.8	914	0	—	0	0	0
Imports (mil. lb.)	4.4	0	—	7	—	0.2	1.6	1.2	13.7	1.1	4.0	—	6.5	0.4
Exports (mil lb.)	0	0	—	—	0	0	17.8	0	16.4	0	—	—	0.04	0
SYNTHETICS (Staple)														
Production (mil. lb.)	1.3	0	—	2.5	0	0	20.4	0	264	—	—	0	—	0
Imports (mil. lb.)	—	0	—	10	—	0	0	0.2	44	—	1.7	—	—	0.01
Exports (mil. lb.)	0	0	—	—	0	0	17.0	0	—	—	—	—	—	0
WOVEN SYNTHETICS														
Production (mil. yd.)	—	—	40.7	116	0	0.3	17.6[1]	2.0[1]	2,295	0.2[1]	6.0	—	7.0[2]	0
Imports (mil. yd.)	1.8[1]	—	—	4[1]	—	0.4[1]	2.2[1]	0.3	—	0.2[1]	1.5	—	34.1[2]	16.4
Exports (mil. yd.)	0	—	—	3[1]	0	0	1.6[1]	0	—	0	—	—	0.1[2]	0

	Europe										Asia		
	Belgium	Czechoslovakia	Finland	France	Great Britain	Hungary	Italy	Norway	Portugal	Spain	Sweden	Russia[6]	China	India	Japan
COTTON YARN															
Spindles (mil.)	2.3	—	0.4	8.2	34.7	0.36	5.4	—	0.7	2.3	0.6	8.0	4.9	10.5	3.3
Production (mil. lb.)	183	145	—	473	780	80.3	420	5.5	63.9	—	59.4	—	879	1,500	275
Imports (mil. lb.)	4.8	—	1.0	4.2	7.3	—	0	11	0.2	—	11.0	0	—	0	—
Exports (mil. lb.)	24.2	—	1.4	2.4	57.6	3.2	72	—	0.5	0	0	—	8.8[3]	0	9.5
COTTON CLOTH															
Looms (thous.)	35	—	6	168	425	11	138	—	24.6	80	10	154	70.0	205	183
Production (mil. yd.)	139[1]	128[1]	16.5[1]	325[1]	1,867	182[2]	276[1]	4.9[2]	53.2	—	44	4,900	2,307[2]	4,500	918[1]
Imports (mil. yd.)	4.4[1]	—	1.7[1]	9.2[1]	222[2]	—	0	6.6[3]	0.8	0	11	0	4.4[3]	350	—
Exports (mil. yd.)	37.5[1]	—	1.1[1]	79.2[1]	756	29.7	26.8	—	17.0	1,090	0	—	10.4[3]	320	310
WOOL YARN															
Spindles (thous.)	750	—	85	2,814	—	103	1,460	—	163	300	250	—	78[3]	88	574
Production (mil. lb.)	41.2	70	—	266	178	23.1	194	12	17.6	—	39.6	—	2.7[4]	—	24.2
Imports (mil. lb.)	2.2	—	0.8	0.7	9.3	—	0.3	2.4	—	0	8.8	0	—	—	—
Exports (mil. lb.)	12.8	—	0.3	22.0	13.9	—	7.9	—	—	0	0	—	—	0	0.4
WOOL CLOTH															
Looms (thous.)	—	—	1.5	46	—	2	21.5	—	2.4	20	3.4	—	—	2.3	13.9
Production (mil. yd.)	—	50.6[2]	11.0[2]	164[1]	257	30[2]	97	7.1[2]	10.3	—	28.6	174	—	11[2]	25.5[2]
Imports (mil. yd.)	—	—	1.7[1]	1.5[1]	10.8[2]	—	0	2.0[2]	0	0	4.4	0	—	1[2]	—
Exports (mil. yd.)	—	—	0.1[1]	12.4[1]	105[1]	2.5	15	—	0.3[2]	0	0	—	—	0	2.2
SYNTHETICS (Filament)															
Production (mil. lb.)	19.9	11.0	1.8	92.5	142	0.2	119	—	0.5	15.4	3.9	10.0	—	0	59.9
Imports (mil. lb.)	2.2	—	0.9	2.9	1.3[4]	—	1.6	1.5	2.1	0.05	8.8	0	—	—	—
Exports (mil. lb.)	8.8	—	—	9.1	23.6[4]	—	67	—	—	0	0	—	—	0	4.5
SYNTHETICS[5] (Staple)															
Production (mil. lb.)	17.3	36.3	11.4	66.0	84.6	4.2	45	—	—	19.8	22	5.0	—	0	35.4
Imports (mil. lb.)	—	—	0	0.9	—	—	—	0.2	0.4	0.4	0	0	—	12.0	—
Exports (mil. lb.)	—	—	—	12.8	—	—	14.3	—	—	—	8.8	—	—	0	3.1
WOVEN SYNTHETICS															
Production (mil. yd.)	11.5[1]	—	—	41.8[1]	484	20[2]	—	—	—	—	14.3[2]	—	—	—	86.5[2]
Imports (mil. yd.)	3.1[1]	—	0.2[1]	1.0[1]	22[2]	—	0	1.5	0.05	—	2.6[2]	0	—	0	—
Exports (mil. yd.)	1.1[1]	—	0.04[1]	5.4	136[2]	2.4[2]	15.4[2]	—	—	—	0	—	—	0	8.3

[1] Pounds. [2] Square yards. [3] Figures for 1947. [4] Filament and staple combined. [5] Estimated. [6] Russian figures on cotton and wool are objectives of current 5-year plan by 1950; figures on synthetics are for 1947 from "Rayon Organon". ——— means not reported; 0 means small or none.

WORLD ROUND-UP

Shows Growth in Self-Sufficiency

THE WORLD ROUND-UP this year indicates that the first step toward industrial recovery on the part of industrialized nations and the first step toward industrialization of more primitive peoples is to be found in textiles. This trend, which was visualized and forecast during the closing years of the war, makes each nation to a substantial degree independent of others for its textiles and leads to eventual choking off of international textile trade.

Textile raw materials may soon be the last remaining textile item interchanged among nations. Nature, plus man's ingenuity, has made certain areas pre-eminent in cotton growing, such as U. S., India, Brazil, Russia, and Egypt. Other areas dominate in raw wool, such as Australia, South Africa, the U. S., and Argentina. India tops all in jute; Ireland, Belgium, and Russia rule in flax, etc. Changes in these agricultural concentrations cannot be so rapid as changes in industrial locations. Synthetic fibers are ubiquitous and every textile country is now starting or expanding synthetic-fiber capacity, in large part to give independence from imports.

This round-up from 30 different countries was gathered especially for this issue by the world-wide organization of McGraw-Hill World News. It comes from specialists in observing and reporting industrial and economic conditions. It is a unique TEXTILE WORLD service, unmatched in scope and timeliness.

The reports indicate a startling increase in textile self-sufficiency in all quarters of the globe.

The Americas

ARGENTINA

By John Wilhelm

Production of all types of textiles during 1948 in Argentina increased greatly, and many well-informed textile men are concerned over the prospect of over-production in 1949. This would be unfortunate, since the Argentine industry is not on a footing at present to compete successfully in the export market, although it can do well in handling domestic needs. The notable fact, however, is that the moment seems to have arrived when the bulk of the historic South American market for yarn and cloth from such other countries as England, Italy, and Brazil is about to be lost.

Argentina's 540,000 cotton spindles and 400,000 wool spindles are coming close to taking care of its 18,000 cotton looms and its 5,200 wool-cloth looms. And the cloth mills are close to taking care of the domestic fabric market. Although there is still demand for better-quality imported woolens, it is questionable whether the government will allow further imports on any large scale.

One of the notable achievements of 1949 will be the start of nylon production at the new Ducilo (Du Pont subsidiary) plant near Buenos Aires. This will be the first nylon production in this part of the world. Ten new cotton-spinning mills have gone into production in Argentina during 1948, plus two new worsted mills. The three rayon-yarn companies in Argentina (Ducilo, Rhodiaseta, and Raysol) have upped their annual rayon production to over 10,000,000 lb. (mostly viscose), cutting down greatly on imports of that commodity.

One of the most interesting textile deals of the year was the placing by IAPI (Argentine state trading monopoly) of an order for 3,000,000 kilograms of viscose yarn from Italy.

Domestically, the government has kept a sharp check on both producers and distributors of textiles; and a firm price control is maintained. This has meant red-tape and bookkeeping for all textile men over which there have been loud complaints; but, actually, every firm, without exception, has made unprecedented profits. Such big cotton spinning and weaving companies as Grafa (owned by Bunge & Borne) are building large additions to their plants which seems to indicate a healthy state of affairs.

BOLIVIA

By Jaime Saenz

Bolivian textile situation is good with large and increasing demand. Local production does not meet requirements, hence 50% of total consumption is imported. A rayon mill will be operating in Bolivia by 1950.

Total value of textile production in 1948 was $10,400,000 (at a rate of Bs. 42 per dollar). Important quantities of both manufactured cotton and wool have been exported to North Argentina, Chile, and Peru. Raw materials imported include: raw cotton, 2,200 tons; wool, 412,341 kg.; wool yarn, 73,871 kg.; dyes and chemical products, $2,466,000; and silk, 296,133 kg.

During 1949, work will start on two new textile plants, with a total of 5,000 spindles and 130 looms.

BRAZIL

By H. W. Bagley

Brazilian textile manufacturers, facing a dwindling export market, look to Argentina as their main market abroad for 1949. A new Brazilian-Argentina trade treaty enables them to continue selling at high prices to that country in return for maintenance of Argentina's high wheat price to Brazil. In a sense, the whole Brazilian populace is subsidizing the textile industry.

At the end of August, Brazil's total exports of textile manufactures (mostly of cotton) were only 5,216 tons for 1948, less than half the figure for the same period in 1947. Income from those foreign sales had dropped from 988,000,000 cruzeiros to 436,000,000 cruzeiros. Argentina and South Africa were the only big buyers.

Three years ago, in 1945, cotton-cloth exports had represented over 11% of the value of Brazil's total sales abroad. With the end of the war, the drop was sharp in 1946. A minor comeback in 1947 made cotton cloth represent nearly 6% of total export value, but in 1948 the decline was drastic.

High production costs plus the resumption of strong competition from Great Britain, the U. S., and elsewhere are factors contributing to the contraction. Fantastic profits taken by some companies have contributed to elevating prices. Postwar re-equipment has been slow, partly because machinery was not available, partly because firms would not or could not make new heavy outlays. Brazil's manufacturing costs are still climbing. A sudden flurry of wage raises throughout the country in practically all branches of industry, with government sponsorship or approval, has started most prices up again.

Exports of raw cotton dropped slightly in 1948, from 231,747 tons in the first nine months of 1947 to 221,753 in the similar period of 1948. Price, however, has improved, so that Brazil received 2,858,000,000 cruzeiros in 1948 (first three quarters) compared to 2,199,000,000 in the similar period of 1947.

CANADA

By Frank Flaherty

Throughout 1948, the textile business in Canada operated under artificial governmental influences in the form of import restrictions designed to re-establish Canadian reserves of U.S. dollars. The restrictions were applied in November, 1947; but their full effect was not experienced until 1948. Broadly, it was to stimulate cotton and synthetic manufacture in Canada, to boost cotton-textile imports from Britain, and to pare down all textile imports from the United States.

All textile imports were placed on a dollar quota. The quota was fixed separately for dollar and non-dollar countries and was four times Canada's annual prewar dollar outlay on imports. Since, in the prewar period, Britain had been a heavy seller of cotton goods to Canada

and comparatively little had come from the United States, the effect was to provide almost unlimited access to the Canadian market for British cottons and compel a cut in purchases of American cottons. The wool-goods picture was not materially affected by import controls, since nearly all supplies were already coming from Canadian or British mills.

New plants started or completed during the year include developments by Robinson Cotton Mills, at Woodbridge, Ont.; Wabasso Cotton, at Grand'Mere, Que.; Dominion Textile Co., at Magog, Que., and at Montreal. In the synthetic field, Canadian Celanese expanded at Sorel, Que., and Dominion Burlington Mills, at Montreal. Courtaulds (Canada) put in a new staple-rayon plant at Cornwall; and Canadian Industries, Ltd., extended its nylon plant at Kingston, Ont. Investment in new machinery over the whole primary textile field ran to about $40,000,000, most of it spent in the cotton and synthetics branches.

DOMINICAN REPUBLIC

By Fran Reed

The textile industry in the Dominican Republic is confined almost entirely to one plant, owned and operated by local capital. The Textilera Dominicana, C. por A., has 3,000 spindles and 100 looms with a capacity of 1,000,000 yd. of cloth a year. The output, however, is about 600,000 yd. Much of the equipment is old, some as much as 46 years, but is kept in good running condition. The efficiency of the labor is low as shown by the company statement that a weaver will turn out 175 yd. per 8-hr. day as against 900-yd U.S. average.

A 20% reduction in local output of 1947-48 compared to 1946-47 was due to slackened demand because of heavy imports of cotton goods. The 1947 imports went up to 15,000,000 linear meters, and retailers are still somewhat overstocked.

GUATEMALA

By Rafael Sabbagh

Only one new cotton mill was set up in Guatemala in 1948, and no figures are yet available on its capacity. Some of the existing plants are now generating their own electric power, since the demand for current increased tremendously in the last year and the local power company cannot keep up with it. There are in all 74 textile plants which employ more than five workers each and consume nearly 5,000 hp. in prime movers.

MEXICO

By Dorothy Neal

Modernization and expansion of Mexican textile industry in 1948 was great. Further modernization of every aspect of the country's textile industry is proposed. Progress has been restricted only by the limits to procuring machinery and credits; but the scarcity of new equipment which has been keenly felt for the last five years has somewhat eased. Seven large new textile plants have been completed within the past year, as well as several smaller ones. Ten or twelve more are building.

The 15% ad valorem tax placed on all exported products since Aug. 24, 1948, was the most important government decree affecting the textile industry; but so far export figures have held steady. The lowering of the value of the peso from 4.85 to the dollar to about 6.85 had a great impact on Mexico's entire economic life. It meant that all materials and machinery imported into Mexico went up roughly a third in purchase price.

There have been no steps taken, or even rumors of them, toward nationalizing any aspect of the textile industry in Mexico. Some new foreign capital has been invested in the industry, but it has been a small percentage and largely on the part of foreigners living within the country.

PERU

By W. H. Eguren

During 1948, demand in Peru for textiles was very high. National production is probably about the same as in 1947, but there is an increase of about 10% expected in the early part of 1949. The industry has suffered from difficulties in obtaining spare parts and necessary materials as result of exchange control and dollar shortage.

A law recently passed allows importation of textile machinery, spare parts, etc. to be paid for at the free-market rate of exchange, which will cause an increase in cost of production. Workers' wages have been increased to correspond with the higher cost of living, about 30% more during 1948. Price control of materials of primary importance continues as previously.

Another new law will give workers an extra day's pay when they have completed 48 hr. of work during the week.

PUERTO RICO

By E. Sanchez Ortiz

The incentives given by the Puerto Rico Industrial Development Co., a government-owned agency, for establishment of new industries, have prompted a number of textile firms to establish mills in Puerto Rico. Foremost among the incentives is the tax-exemption law which excludes industries from payment of all taxes until 1959. According to official information at the moment, a $4,000,000 plant is being built for Textron, Inc., at the city of Ponce. It is scheduled to be in production by April, 1949. This plant, when completed will operate 25,000 spindles and related looms to produce about $4,000,000 worth of print cloth and other goods. Negotiations are almost completed for the establishment of five additional plants which will cost approximately $3,000,000. Construction will soon begin on a new blanket mill to be operated by Beacon Mfg. Co. Total cost will run around $1,500,000 and the annual production will approach $5,000,000.

URUGUAY

By John Wilhelm

During 1948, the Uruguayan textile industry made a further increase in its production rate, and the time is approaching when Uruguay will become self-sufficient in most phases of textile production. Over 115 different textile mills are now working in Uruguay, with a capital investment of over 150,000,000 Uruguayan pesos, or about $65,000,000. Every type of textile manufacture is represented with the notable exception of primary production of rayon filament, which is imported.

More than 15,000 workers are now employed in the Uruguayan textile mills compared to only 6,500 in 1936, when the last industrial census was taken. A number of new mills are now in construction of which the new Sudamtex rayon mill is the most notable. Many of the mills going into production are equipped with used machinery from Italy.

Europe

BELGIUM

By Margaret Kocher

Since the beginning of 1948, the Belgian textile industry has slumped considerably after a period of continuous expansion following the war. Cotton production is about 74% and wool production about 85% of normal capacity. At least 10% and probably nearly 20% of textile workers are unemployed.

The 3% export tax imposed last year has been lifted, but exports remain below normal because of the lack of Belgian francs and/or dollars in countries which formerly bought Belgian textiles. Belgian textile prices are said to be too high; and unions claim that, despite slack production, 1948 profits are substantially above 1947.

Belgium is committed to pass on 83% of her ECA funds in the form of Belgian franc credits to other European countries, but there is fear that this may not remedy the situation. There is no master plan for reequipment of the Belgian textile industry, since this is entirely up to individual companies. Most machinery for wool is manufactured in Belgium; but machines for cotton processing are imported from England, the United States, France, and Switzerland.

DENMARK

By Henry Pasdermadjian

As a result of its expansion during 1930-1940, the Danish textile industry has a capacity of production which makes it possible to cover a much higher percentage of the home demand than, say, 20 years ago. For woolen goods, the Danish mills can supply about 50% of the home consumption. Cotton mills, with about 100,000 spindles installed, can produce 80% of the yarn required for manufacture of woven cotton goods, which also covers about 50% of the home demand.

Prospects for 1949 are promising. The two last limiting factors which prevented mills from working at full capacity last year, namely insufficient imports of yarns and scarcity of labor, should be overcome. Imports of finished goods are expected to be resumed on a larger scale.

In the course of 1948, some Danish firms acquired license for use of the Sanforized process. Manufacture of nylon hosiery, based on imports of nylon yarn, is expected to start in the near future. The Danish silk and rayon users are also entirely dependent on imports of foreign yarns. The hosiery and knitted-wear branch has reached sufficient volume of production to supply nearly the entire

home consumption and to leave a surplus for export.

The sources of Danish textile imports are largely as follows: for cotton yarns, Great Britain; for woolen yarns, Great Britain, Belgium, France; for other textile goods, Great Britain, Belgium, France, Switzerland, Italy; for textile machinery, Great Britain, Belgium, and Switzerland. The disappearance of Germany as a supply source has affected the Danish trade principally in the following lines: woolen yarns, finished goods, textile machinery

CZECHOSLOVAKIA

By Elizabeth Fisher

About one-third of Czechoslovakia's textile industry, previously private enterprise, was nationalized after the Communists came to power in February, 1948. Only firms employing less than 50 hands remain outside the national corporations. All importing and exporting has been taken over by the government.

Apart from the resultant reshuffle and reorganization, the basic difficulties of the industry (shortage of skilled manpower and raw materials) remain unaltered. The textile industry's imports of raw materials were cut down as a result of the severe crop reduction which necessitated extraordinary food imports. Consequently, the originally planned increased output for the second year of the two-year plan had to be scaled down. It does not seem likely that the planned 6 milliard (6,000,000,000) Czech crowns target will be reached for exports of textiles.

Cotton and wool imports increased toward the end of 1948. Australia and New Zealand advanced loans of £500,000 and £1,000,000 for the purchase of wool, and the Trade Pact with USSR provides for the import of 45,000 tons of cotton in 1949; in fact 10,000 tons were delivered in advance, apparently to keep the industry running. In 1949, USSR will take 23% of all Czech exports, and textiles will be the largest item.

Czechoslovakia's textile-machinery requirements are covered to the extent of 85% by the local production, and 15% of highly specialized machinery is imported.

FINLAND

By O. O. Ojala

In recent years, the Finnish textile industry has operated under difficult conditions. In 1947, and particularly in 1948, the situation began to improve. For 1948, the output of the wool and cotton branches is calculated to be 15 to 20% above the 1947 figures. The hosiery gain is about 20%, whereas a minor decline is recorded for silk. The shortage of raw materials, of foreign exchange, and of work-hands have made it impossible as yet to reach full prewar capacity. However, it is expected that 1948 production of wool goods will exceed the figures for 1939, while in cotton and hosiery a ratio of about 80% will be reached.

The renewal of plant is an important question. No proper maintenance has been exercised since 1939, because of the war and the shortage of exchange.

Finland has one producer of filament and staple fiber by the viscose process, the Sateri Oy, which uses for raw material Finnish sulphite cellulose. In 1948, this firm produced about 800 tons of filament rayon and about 5,200 tons of rayon staple. Owing to planned enlargement, the production of filament rayon in 1949 will be about 1,100 tons. High-grade sulphite cellulose for rayon production is also being exported.

FRANCE

By Boyd France

The French textile industry ranks foremost in France's foreign trade. It constitutes 14% of her total exports, and of these textile exports 60% comprises wool goods. These figures do not include shipments to France's colonies, which are by no means insignificant. Currency adjustment at the beginning of 1948 temporarily brought French prices down to the same level as those of her competitors, but this improvement was of short duration. Costs of production rose as a result of higher wages and new social security privileges.

Efforts made to expand foreign markets met with some difficulties. For example: The requirement of a 25% deposit of the total amount of orders under the Marshall Plan; advance payments of production taxes to the state; re-establishment of customs duties on textiles, which, coupled with currency readjustment, increased reequipment cost up to 50%; recent adjustment of wages giving a rise of 18%; additional taxes of 20% on annual industrial and commercial profits. As a result, French manufacturers are obliged to raise prices 17 to 18% at a time when their competitors are not modifying theirs. The present deficit in foreign trade amounts to 40 to 45%. If it were not for the Marshall Plan, this situation would lead to immediate unemployment for about 40,000 workers. France imports 90% of its textile raw materials.

The dropping off of cotton imports seriously handicapped the industry last year. Shortage of cotton products was heightened by French-colonial needs which take priority on about 85% of the cotton goods manufactured. Although rehabilitation is not yet complete, Courtaulds rayon plant at Calais is steadily increasing its output.

Two circular looms have been brought out this year. One by Fayolle-Ancet has shuttles regulated by electro-magnetic contacts. The cloth is taken vertically from the top of the loom. The other by Saint Freres is looked on as one of the most advanced looms of the day. It provides the fastest and most satisfactory results of any jute loom and is to be adapted for cotton and other lighter materials. Ferbern, Ltd., of England, is now building 500 of these looms for Saint Freres. A representative of the Saint firm is now in the U.S. for the purpose of interesting Americans in the circular cotton loom. Plan is to have this new cotton loom built in the U.S. because of that country's lead in the cotton field, even as their circular jute loom is being built in England as a center of equipment for the Scotch and Indian jute industry.

GREAT BRITAIN

By Frederick R. Brewster

Production of rayon yarns continued to set new all-time high levels in the United Kingdom during 1948, with the October figure, 13,400,000 lb. of rayon filament, topping the September peak by some 200,000 lb. or about 2% and the October, 1947, figure by 11%. Total production of filament for 1948 will be nearly 22% up on 1947. Staple production will also show a gain of about 1,000,000 lb. or 15%.

A considerable amount of plant expansion is underway in the rayon industry, not all of which is yet in operation; but already filament production is 25% above prewar, and staple production is double prewar.

Principal projects in this field are those of Courtaulds, Ltd. This firm is presently building a new plant at Carrickfergus, in Northern Ireland, which will be the first in which the Industrial Rayon Corp. process for continuous spinning of viscose will be employed. Courtaulds is adding to the capacity of its plant at Greenfield, in North Wales, where its viscose-staple production is centered. In its Preston, Lancashire, plant, it is installing new equipment for viscose tire yarn. Extensions at its Dundee, Scotland, plant are at present still in abeyance. After the Government moved into Sellafield, Cumberland, with its atomic energy project, Courtaulds had to abandon its plans to turn out acetate yarn in that area and instead will expand production at the main plant in Coventry.

The one major new plant opening of the year was that of British Nylon Spinners, Ltd., whose £8,000,000 project at Pontypool, Monmouthshire, Wales, is now in partial production. This firm, formed jointly by Courtaulds and Imperial Chemical Industries, has already shifted its full operation to the new plant, closing down the small plants at Stowmarket and Coventry and also a pilot plant at Pontypool. When early in 1950 the new works is in full-scale production, it will be turning out nylon at the rate of 10,000,000 lb. a year, compared to the present yearly production of approximately 1,300,000 lb.

Labor shortages continued to hamper Lancashire's cotton-goods production in 1948, even though output in every month to the date of writing has been up over 1947. Yarn-spinning, despite a small net gain in employment, has succeeded only in holding its own; and the increase in labor force—now running about 150 workers more each week—has sufficed only to balance the effect of the ending of the over-time working scheme.

Cotton-yarn production will be more than 100,000,000 lb. below the government's target of 900,000,000 lb. In consequence, cloth production will also fall short of its goal.

Manpower shortages in wool plants, too, continued during the year, with the labor force still below the year-end target of 200,000—compared to a prewar employment of 210,000.

Re-equipment in both cotton and wool manufacturing proceeded slowly during the year; and, despite opposition from trade-unions, emphasis has been on schemes for redeployment of the labor that is available to obtain more output from existing machinery.

Exports of British textiles continued their phenomenal postwar climb, but already there is evidence that import restrictions raised by buyer-nations will seriously threaten the continued growth of these exports.

HUNGARY

By Maria Egger

On Mar. 27, 1948, 78.8% of the Hungarian textile industry was nationalized with the purpose of bringing it under the control of planned economy to secure the objectives of the three-year plan. Official reports say a 10% increase in output has already been realized. Many causes for the gain are mentioned, including better working methods, improved maintenance

(Continued on page 238)

WASHINGTON'S HAND

In Business Will Be Firmer

HIGHLIGHTS: Government spending will be more important—Labor legislation will kill most Taft-Hartley ideas—Move toward higher minimum wage—Wool and cotton prices to be supported—Higher taxes on corporate profits

By DON LOOMIS
McGraw-Hill Washington Bureau

THE OUTLOOK from Washington for 1949 is different from 1948 in this respect: Last year was a year when both political parties stalled off deciding things in favor of making a political record that would contribute toward winning last November's election. The year 1949, however, finds the Democrats set for two years in both Houses of Congress and four years in the White House. There's no doubt that the President's amazing election victory has given him confidence to strike out with a more decisive leadership.

Certainly, the importance of Washington decisions on the textile industry's operations will continue to be of considerable moment.

On the economic front, Marshall-Plan spending and the plans to boost total military expenditures contribute a demand that keeps the nation's economy buzzing along at a high level. Military demands for steel and other short commodities will probably bring on more direct government powers to control materials in short supply. Textiles aren't likely to be directly affected. Equipment manufacturers, on the other hand, might be pinched by a tightening supply of "free" metals and attracted perhaps to achieve balance by getting arms orders.

LABOR LEGISLATION. On the labor front, there will be a repeal of the Taft-Hartley law, as the President promised. But at the same time, ways will be found to retain some of Taft-Hartley's less controversial ideas. Among these are some controls over jurisdictional strikes, over welfare funds to which the company contributes, and over national-emergency strikes. Taft-Hartley ideas that will be dropped include: ban on the closed shop, requirement of non-Communist affidavits, restriction on union political spending, ban on foremen's use of the labor law.

Labor leaders will go all-out for a 75¢ minimum wage. A law will be passed, but it provides for a 65¢ floor first, with a provision for a 5¢ increase until the minimum reaches the 75¢ level. Ex-Senator Ball's bill of last year, which would have removed many categories of workers from provisions of coverage of minimum wage law, is dead; odds now favor expansion, rather than contraction, of coverage.

The textile industry had a foretaste of the new minimum-wage movement when the Secretary of Labor raised the minimum-wage level under the Walsh-Healey Act, which governs wage payments of manufacturers filling government contracts. The law prohibits the payment on government work of wages lower than those which the Secretary of Labor decides are "the prevailing minimum wages" being paid by the same or similar industries in the same "locality." For textiles, the minimum is now at 87¢ per hour, although learners may be paid a subminimum of 80¢ for a period of six weeks.

PRICES AND PROFITS. On the price-support front, domestic prices for raw wool and raw cotton will be supported through 1949 at about their present levels, as provided in the legislation passed by last year's Republican-controlled Congress. Big fight this year will be over the so-called Aiken-Hope flexible-price-support formula which, as it now stands, goes into effect in 1950.

Cotton and wool growers, along with many other farm groups, are carrying on a fight for continuation of the 90% of parity support price, as against the 60-to-90% sliding support levels called for in the Aiken-Hope law. The Southern Democrats who are strong for high mandatory supports have come back to positions of power in both Houses of Congress with the Democratic victory. The Administration, so far, has been committed to the flexible-support theory.

Taxes on corporate profits are likely to be increased. That is one of the sources of revenue which the Administration is examining as part of the decision to bring in new revenues to pay for the increased budget.

Export controls are sure to be continued as is. This does not mean that all materials now held down because of government licensing will continue under controls. In fact, as more items become freely available, they will be taken out from under controls.

Exports of textiles dropped sharply during 1948, and they are not expected to recover this year. Reason: Europe and the Orient are filling their needs from their own production or from non-dollar areas. Compared to most other industries in foreign countries, textiles have recovered from the impact of the war in dramatic fashion.

The Administration will ask for—and get—from the present Congress a three-year extension of the Reciprocal Trade Agreements program, which had been continued by last year's Republican Congress on a more restricted basis for only one year.

RESEARCH IN TEXTILES

Marks Important Gains

By P. M. THOMAS
Associate Editor, TEXTILE WORLD

HIGHLIGHTS: Fibers, finishes, machines, and techniques draw the fire of researchers—Orlon, Vinyon N, and Acala 4-42 offer mills a greater variety of fibers—"The Wool Project" gives woolen and worsted men a shot in the arm—The truth about textile drying is told.

RESEARCH ACTIVITY during 1948 proceeded at a healthy pace. A few important projects were brought to a successful conclusion, a few dropped, many more that were started some time ago were continued, and one or two important new ones were begun.

FIBER. Fiber research followed a well-worn path: a new synthetic fiber was announced and another relatively

new one further developed, a fairly new cotton variety was heralded for widespread production, and new research to modify wool fiber was announced.

DuPont's hush-hush Fiber A was finally brought to light under the name Orlon. It is described as an acrylic-resin yarn with properties somewhere between nylon and rayon.

Some new types of Vinyon N, the non-cellulosic fiber made by Carbide & Carbon Chemicals Corp., popped out of a continuous-filament pilot plant, to be added to the string of types that were produced in 1947.

Acala 4-42, a new variety of cotton, reached full development and acceptance in 1948. This year, the extent of its production will catapult it into the rank of one of the eight most important cotton varieties. It runs about 1⅛ in. in length, is of average fineness, has high tensile strength, and a relatively high percent of immature fibers (neppiness).

Fiber-structure questions continue to focus on orientation of cellulose crystals, absorption properties of fibers, linkage of chains of molecules, how dyestuff penetrates a fiber, how the swelling of a cotton fiber can be used to waterproof fabrics, X-ray diffraction, etc.

Theoretical work is going ahead on such problems as the mechanics of mildew attack on cotton and rayon, what makes dirt stick to cotton, how fabrics can be made resistant to soiling, and the million-dollar question of how cotton-fiber spinnability can be accurately evaluated and improved.

YARN. Processing fiber into yarn (always a concern of the first order) took three definite paths—none of them new, but all of them important:

1. Cleaning and Blending Cotton—Cleaning machine-picked cotton is not yet a major problem because only a very small percentage of the 1948 cotton crop was picked in that manner. Practical research by mills has led many of them to cut out some of their beating machinery and slow down those they retained.

The year 1948 saw an intensified effort to eliminate some of the variation in sliver, roving, and yarn.

For holding that part of the tire-cord market cotton still has, and recapturing some that has been lost to rayon, cotton researchers have done two things: (1) worked on a new two-field-drafting system, and (2) tinkered with lubricants for tire cord. These projects are two that move into 1949 as hangovers.

2. Other Fibers on Cotton Machinery—All along the line, synthetic fibers are being fitted more and more into the cotton-type mill. Process researchers are busy gathering data on the best way to pick, card, draft, spin, warp, slash, weave, and finish synthetic fibers. Staple nylon, the latest to move in, is being pushed aggressively. So far, woolen and worsted spinners have taken to it more than cotton spinners.

3. Economy in Wool Manufacture—Woolen and worsted mills are eyeing such improvements as higher speeds, less vibration, and larger packages as a possible answer to their need to reduce the cost of manufacturing their products.

THE WOOL PROJECT. Probably the big news of the year in regard to wool fiber and yarn was the $80,000-a-year wool-research project put under way at Textile Research Institute.

The two immediate objectives of the project are: (1) to study the properties and structures of different types and grades of wool, and (2) to determine how these properties and structures influence spinnability, yarn character, and fabric properties.

The long-range objective is to find out how less-expensive wool fibers can be used to make fabrics that are now made from the high-priced wools.

WET PROCESSING. As usual, wet processing cut a wide path in textile research. One of the most interesting and promising studies has been that on high-temperature dyeing by the American Association of Textile Chemists & Colorists. One section of AATCC found that dextrine, used at high temperatures, saves dyestuff and time, increases penetration, gives more comparable results from one bath to another, and aids in stabilizing reduced vat-color solutions.

Promises of continuous-process wool dyeing can be inferred from AATCC research on dyeing wool at temperatures of about 250° F. Vat dyes at pH 2 to 6 dyed as well in 2 min. at 250° F. as they did in 1 hr. at 212°. High-temperature dyeing was found to equal boil dyeing in exhaustion, fastness, fiber stability, and range of colors possible to use. It was found to be better for levelness, penetration and speed.

Textile-drying methods were explored by the Institute of Textile Technology. It was found that continuous drying (which covers 85% of the dryers used in the industry) can in many cases be improved by designs of the drying areas to permit more effective air movement over the material being dried. This condition was found to be true regardless of the source of drying heat.

Steam-can dryers were found to be the most efficient and economical drying method. Convection dryers of the hot-air or tenter type were less efficient. Electric infrared heat applied to continuous drying could be a serious competitor of steam cans. Where penetration is essential, as in package drying, high-frequency dielectric heat may be used; but as things now stand, the cost of this method is all but completely prohibitive.

PRECISION MACHINERY

Will Raise Industry Efficiency

By WILLIAM A. NEWELL
Assistant Editor, TEXTILE WORLD

HIGHLIGHTS: Refinements in design and new techniques characterize trends in textile machinery—1948 saw interesting loom developments—New devices speed up yarn production—Knitting-machines trend toward multi-feeds and high production—Tensionless finishing important.

THE SHAPE OF THINGS TO COME in textile machinery was clearly outlined by developments in 1948. The universal objectives of higher production at lower cost will be attained by (1) refined machinery design, such as precision engineering, use of new materials, and unit assemblies; and (2) development of new manufacturing techniques, such as spinning directly from sliver, making top from tow, and new picking motion in looms.

Whitin Machine Works' new Model J comber [TW, Jan. '49, p. 141] illustrates the point well. The comber features a streamlined design

and integration of the coiler with the comb proper. Precision construction is used throughout, involving reduction in number of parts and making operation smoother and quieter. With about 150 nips per minute, the new machine is 27% higher in speed than previous models. Unit assemblies are used to simplify maintenance and reduce downtime caused by maintenance. There is an improved detaching-roll motor, redesigned nipper frame, spring weighting, and reduction of power consumed per pound of sliver produced.

The year of 1948 will be long remembered for its loom developments.

Draper Corp. research and development work is continuing along the four main lines it has followed in the past; namely, the improvement of existing mechanisms, the betterment of present high-speed models, the development of new types of looms, and the evolution of other fabric-making machinery. The application of electronics, the use of new lighter metals for various parts, and the reduction of vibration of reciprocating parts are a few of the research jobs that promise greater efficiency.

Machines known to have been in development by M. W. Kellogg Co., Warner & Swasey Co., Coastal Machine Co., and Hunt Machine Co. all made their debut, as did the Fayolle-Ancet circular loom from France.

The Kellogg loom, a conventional type, [TW, June '48, p. 118] featured precision design and construction, including use of ball or roller bearings throughout; unit-assembly design of major loom motions; use of aluminum in lay, battery, and other parts; pressed-steel frame; and a speed of 220 to 230 ppm.

The Warner & Swasey Sulzer weaving machine [TW, June '48, p. 110] has a unique filling-insertion method which eliminates conventional shuttles, picker sticks, pickers, bobbins, and the need for filling winding. Filling is inserted from one side only by small metal carriers which are "fired" through the shed. Single or multiple fabrics in widths up to or totaling about 110 in. can be woven. Speed is in excess of 210 ppm.

The Baker loom for woolen and worsted weaving [TW, Aug. '48, p. 139] was of conventional design, but featured a variable-speed drive which permitted a range of speeds from 90 to 160 ppm. Other features were a dwell motion, welded-steel frame, aluminum lay ends, and elimination of protector daggers.

The Fayolle-Ancet circular loom developed in France was said to produce fabric at a rate of 15 sq. yd. per hr. Eight filling carriers are moved by magnets simultaneously.

A new double-cylinder jacquard was developed by Crompton & Knowles Loom Works. Objectives said to be accomplished in the design of the new head are smoother operation, reduced maintenance, better accessibility, and higher speed.

Other new weaving developments included new cotton and rayon looms by Hunt Mfg. Co., the Libby narrow-fabric loom with a speed of 1,500 ppm., a leather picker with a steel shell announced by Graton & Knight Co., and new shuttles designed for durability at high speeds by Southern Shuttles Div., Steel Heddle Mfg. Co.

YARN MANUFACTURING. The Pacific converter, a machine for direct conversion of synthetic continuous-filament tow into sliver and (if desired) simultaneous blending with natural fibers will be manufactured for general sale by Warner & Swasey Co. The converter, to be made as a counterpart to Warner & Swasey's pin drafter, can produce a sliver of any staple length or of variable staple length without subjecting the tow to stretch or strain. Capacity of the machine is 1,800,000 total denier.

The direct spinner, a machine for spinning a strong, lustrous, fine yarn directly from synthetic-fiber tow, was developed by Saco-Lowell Shops.

Saco-Lowell also improved the design of its vertical opener. New features included a round, sheet-steel housing, conveniently located cleaning-out doors, and an improved-design electric-motor drive.

A full line of modified cotton machinery for spinning worsted yarn was announced by Saco-Lowell Shops. Major changes in conventional equipment included positively driven creels on lapwinders, drawing frames, and roving frames; a balling motion instead of roving cans on the drawing frames; and a modified drafting system on drawing, roving, and spinning frames.

European ideas of woolen-card design were introduced by Duesberg-Bosson of America, Inc. Outstanding features of the card were 80-in. width, 50-in. doffer, a new design of intermediate feed, a single-apron tape condenser which produces 88 to 176 good ends, a precision weighing feeder, a safety clutch which prevents damage to the breast. Duesberg-Bosson also announced a new picker and a spray head for oiling.

Terrell Machine Co. is completing development work on its improved model of the Cramerton comber.

Other yarn-manufacturing and handling equipment developed included: a portable vacuum stripper by New England Machine Works; improved cotton-card doffer-comb boxes by Odom Machine Co. and A. B. Bullington Co.; roll-covering which prevents lap-ups by Armstrong Cork Co., Dayton Rubber Co., and Hickory Specialty Co.; a skein-twisting machine by Kiwi Industries, Inc.; an electro-fluid drive for cards and other high-torque applications by Link-Belt Co., Nicetown, Pa.; a saddle and cap bar with Slixonice plastic bearings by Dixon Lubricating Saddle Co.; a 4-delivery pin-drafter for light slivers by Warner & Swasey Co.; a wool duster with an integral picking cylinder by Proctor & Schwartz, Inc.; a weighing feeder designed to produce a highly uniform feed and accurate blends by W. D. Dodenhoff Co.

The trend to continuous spinning of rayon yarn was carried forward by the Nelson process developed in England and controlled in the U. S. by Verney Corp., and the new Filamatic process of American Viscose Corp.

KNITTING MACHINES. Machines for knitting plaids and variable stripes and almost unlimited patterned effects led new knitting-machine developments in 1948.

A 32-feed machine with a simplified pattern chain was developed by Supreme Knitting Machine Co. All 32 feeds can take pattern wheels, and 16 stationary feeds have 4-color drum stripers with automatic controls for selecting stripes individually. Two 24-in. machines (one with 24 feeds, one with 32 feeds), each with 3-position design wheels and four-color yarn changers, were developed by H. Brinton Co.

Supreme also announced a 26-in., 96-feed circular knitting machine for producing wide-striped jersey at a rate said to be 125 yd. per hr.

A Banner wrap-reverse machine for producing boys' socks in color and pattern in perfect proportion and in the complete ranges made by the company's wrap-reverse machine for men's hosiery was developed by Hemphill Co.

Other knitting developments included a 3-bar tricot machine by Robert Reiner, Inc. and improved design of warp-knitting loom developed at the School of Textiles, North Carolina State College.

DYEING AND FINISHING. An outstanding development in finishing equipment was the Tensitrol principle announced by Rodney Hunt Machine Co. Applicable to a wide range of finishing equipment, the Tensitrol principle permits continuous, high-speed, and tensionless processing of such fabrics as prints, acetate (spun and filament) fabric, sheers, crepes, etc. The Tensitrol principle prevents tension in fabrics by driving only the bottom rolls of the machine at a speed

in excess percentagewise of the maximum possible fabric shrinkage.

The Redman shrinking machine for relaxation shrinkage of knit fabrics was demonstrated publicly and is being produced by Proctor & Schwartz, Inc. The machine dries the fabric while it is virtually floated on air.

Wiesner-Rapp Co. announced a slack washer of stainless steel with full-width doors, designed for easy threading. A stainless-steel saturator with a watertight cover was also developed.

Other finishing-machinery developments included a filling straightener by Winsor & Jerauld Mfg. Co. which makes use of reflected light; a tenter chain and clamp designed for high-speed operation without wear; a slack dryer by Proctor & Schwartz for shrinking dyed goods in both warp and filling directions while drying; a self-balancing extractor by Fletcher Works in which the basket spins around the center of gravity of the load to prevent vibration; and a dye-tub heat exchanger which eliminates steam injection into dye baths and reduces coal consumption for such heating by about 12% by Douglas McBean, Inc.

GOOD ENGINEERING SERVICE

More Essential as Costs Rise

By C. P. WOOD
Consulting Editor, TEXTILE WORLD

HIGHLIGHTS: Good buildings and equipment are best economy—One-story, well-insulated plants still lead—Location has big bearing on cost—Materials handling and waste disposol have increased in importance.

ENGINEERING played an unusually important part in textile developments during 1948, and prospects for 1949 indicate even more engineering activity as competition requires further improvements.

Improvements in one department lead to improvements in other departments. New mills, as well as the old ones, need better engineering service now than they needed before the many modern refinements were introduced and before the cost of buildings, equipment, and operation was so high. Engineering also is becoming more and more concerned with better environment for workers.

Construction of buildings has been more active in the woolen, worsted, rayon, and hosiery and other knitting fields than it has been in the cotton-mill branch of the industry. Construction among cotton mills has been limited principally to maintenance, alterations, and extensions rather than to complete balanced mills. Finishing plants, however, have been built to fill the need for increased capacity and improved processes at new locations as well as at existing mill sites.

ONE-STORY STILL LEADER. Most modern plants continue to be characterized generally by one-story design. Variation in story heights and clearances and other modifications are usually to suit special processes, local requirements, or site limitations. Wide column spacing, freedom from vibration, and flexibility for changes and additions to machinery are basic advantages of one-story buildings.

One-story buildings may have flat roofs or monitor roofs. They may be built with the conventional factory sash or with glass block or double-glazed sash to admit natural light. The windowless building, without any admission of natural light, has been adopted to insure the closest possible regulation of temperature and air conditioning, which is best provided by a solid wall and a flat roof, both well insulated. Uniformity of atmospheric conditions is specially important in weaving fine rayons and similar fabrics and in full-fashioned hosiery plants.

The current high cost of construction has delayed some plans for improvements and additions as well as for complete new plants. There is no prospect for any considerable reduction in construction cost in the near future, and it may not even yet have reached its peak. Stabilization of construction cost depends to a great extent on the armament program.

CHEAPENING UNECONOMICAL. Increase in cost of maintenance is higher proportionately than increase in cost of new construction. Therefore, there is no economy in the use of cheaper and less durable materials. Replacements and repairs require more labor than the original construction. Because labor rates are so high, it is economical to use only the best available material and to follow soundest construction principles. Only where need for a building is temporary or where there is uncertainty about the final requirements, can the use of inferior material be justified. Repairs and alterations are so expensive that they must be avoided wherever possible. Interest in correct design and durable materials has influenced the engineering problems involved in new plants and improvements to existing plants. Make-shift arrangements, which might serve if they were easy to replace at any time, can no longer be held economical.

Careful attention to the selection of a site is no more important than it always should have been, but high costs and necessity for economizing space have forced more careful studies of the plant-site problem. One-story design requires larger sites than formerly. It has proved advisable to have plenty of room around a plant, to keep the buildings from being too near the highway or the nearest neighbor, and to have plenty of room for parking cars and in many cases for recreation.

Increasing competition and high cost of textile labor have emphasized the need for the most efficient productive equipment. As a result, mills are buying all the improved machinery they can get; and machinery manufacturers are still behind on deliveries. A mill must make improvements or lose its competitive positive whenever improved equipment is available.

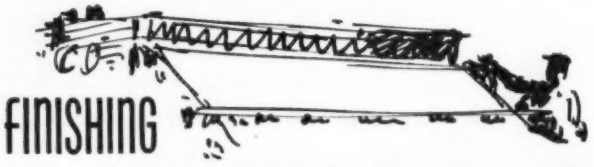
Productive equipment in the narrow sense is understood to include only the machines through which textile materials actually pass in the manufacturing process. Production depends also on lighting, materials handling, air conditioning, steam and water supply, etc. Therefore, all of the elements which effect production have to be treated with as much consideration as spinning and weaving in the operation of a successful mill. the relation between air conditioning and both quality and quantity of output is so well established that it is now recognized as one of the most

important features of textile-mill equipment.

MATERIALS HANDLING. Materials-handling devices accomplish savings in time as well as in labor and floor space. Designers of materials-handling equipment have been ingenious and active in adapting the familiar devices, such as self-propelled elevator trucks, tractors, roller conveyors, conveyor belts, gravity conveyors, monorails, cranes, elevators, and cable-ways to the varying requirements of individual plants. These systems have served to prolong the useful life of some multi-storied mill buildings, whose arrangement was incompatible with economical handling of materials in any other way.

Importance of water-supply and waste-disposal systems has grown steadily as sources of pure water become depleted and as legislation has prohibited stream pollution.

The problem may be simplified by strictly segregating polluted waste and thus reducing the volume of polluted effluent which has to be treated. A large proportion of the normal effluent may be harmless; but if mixed, the total is subject to treatment.



FINISHING

Is Capitalizing Its Many Recent Gains

HIGHLIGHTS: New plants in cotton and rayon fields utilize all modern facilities—Refinements will be keynote of 1949 progress—Speed and volume are sought—Wool mills using more synthetic detergents.

By C. NORRIS RABOLD
and
N. D. MARIUS

THE TEXTILE-FINISHING BRANCH of the industry is at present in the midst of rather drastic overhauling and revamping of plants, equipment, and methods. In the last few years, several completely new finishing plants for the processing of cottons and synthetics have been built from the ground up. Other new plants are in the planning stage; and there is scarcely a finishing enterprise in the country which is not engaged in, or considering, the revamping of its layout.

CLOTH PREPARATION. All the new plants that have recently gone into production have installed continuous scouring and bleaching ranges rather than kier preparation for cotton goods. In the rayon field, continuous boil-off and bleaching ranges have, to a certain extent, replaced individual becks. In rayons also, some plants have taken single units and so arranged them that they can run continuously from one to the other, thus obtaining similar results on their existing equipment as on the newer-type ranges.

Continuous-range operation has been in existence long enough for the limitations and problems of equipment and chemical operation to be generally well known. Elimination of a number of early mechanical difficulties and problems of chemical control has allowed the attention of operators to turn to items of cost and refinements in operating efficiency. It is no longer a question of whether a bleaching range can be run or not; it is now—what is the efficiency at which it can be run?

DYEING. Developments in the dyeing field have followed a course similar to preparation as regards the several high-speed, short-time dyeing systems that have been developed. It is not so much a problem now to produce a shade on these machines as it is to control this shade within reasonable degrees of variation. It has been found that not all shades and not all fabrics can be run with any class of color without encountering difficulties in shading, penetration, or levelness. Careful control of cloth preparation, proper selection of color combinations, and thorough understanding and control of the chemicals and the physical conditions encountered in dyeing are necessary for best results.

Advances in the printing division of the industry have been largely refinements in operating techniques, such as improved methods for preparing thickeners, smoother running machines, use of blanket washers, and auxiliary equipment such as tenter frames and filling straighteners for truing up the cloth. Changes have been in line with the whole industry's trend toward higher speeds and greater production. Mechanization of screen printing continues.

FINISHING. The year has witnessed the greatly increased use of urea and melamine resins in finishing, particularly on cotton fabrics. On rayon, resins may still be considered the accepted method of obtaining shrinkage control and crushproofing. Refinements in both the resins themselves and in application techniques have largely eliminated the problem of odor. In resin application, rayon finishers seem to favor the mangle-and-loop-dryer setup for application, drying, and curing. When treating cottons, one of the better setups is a mangle, hot tenter, and curing oven, combined in one range. This type range also has proved satisfactory for applying durable water-repellent treatments. Slack washing is desirable for both rayon and cotton fabrics after curing, and there are now several high-speed slack washers which might well perform this operation quickly and economically.

WOOL SCOURING. The progressive manufacturer increased the use of synthetic detergents in wool scouring during 1948. The price of synthetics is still low enough to compete with red oil or tallow soap; and, considering the chemical advantages of the synthetics, it is not good practice today to pass them by. The type of synthetic, however, should be carefully selected from the large number on the market. Considerable success has been obtained in wool scouring by using a combination of soap and a synthetic and also by the use of a nonionic detergent alone.

Continuous solvent wool scouring is still in the development stage. However, this year there may be two installations of this process in use. This type of wool scouring may be the answer to the needed elimination of one of the worst types of stream pollution which results from the water-scouring of greasy wool. Due to Federal and local state interest in eliminating stream pollution, the solvent-cleaning process may eventually become of great importance to the wool manufacturer.

During 1948, use of the self-scouring-type wool lubricant steadily increased, particularly in the woolen branch. Use of colloidal silica has also been widely adopted in woolen yarn manufacture, as increased strength of yarns is claimed. In 1949, there may be greater use of silica sols in manufacturing lower grades of worsted yarn, as well as in woolen yarn.

Considerable work has been done in applying the very fast cotton vat dyes

to wool; but, considering the cost of the dyes and the weakening effect of the alkaline bath on the wool, the only advantage over existing fast wool dyes would be in dyeing very light pastel shades for increased light fastness.

WASHABLE WOOLS. Washable wool fabrics have appeared in sufficient quantity on the market to justify the assertion that this development has left the experimental stage and is a commercial reality.

Increased use of mothproofed apparel has been apparent during the year. Specialists in mothproofing chemicals have undertaken to stimulate consumer demand for this protection of wool garments. In light of the high cost of wool apparel to the consumer, it is logical that increased mothproofing will occur in 1949. Few wool manufacturers have yet taken the initiative in using this asset as a means of obtaining a competitive advantage.

Use of water-repellent finish on wool goods has increased in the last year and will no doubt grow in the future. It is worthy of serious consideration by all wool-fabric mills.

KNIT GOODS FINISHING. Progress in finishing knit goods in 1948 involved the successful development of range bleaching and perfection of a shrinking process which leaves not over 5% residual shrinkage in cotton knit tubing. Actually, batch operation is still the dominant method of finishing in this field, but the trend now is toward the longest pieces that can economically be handled on existing machines. Tricot fabric, knit flat, is tacked edge-to-edge and finished in tubular form. In experimental state are machines and processes for finishing tricot in open width which are operating successfully on 84-in. goods. Greater use of fast colors in dyeing knit goods is a probable development of the future as increasing use in outerwear makes fastness to light and laundering a necessity. Progress in the details of handling nylon and acetate in the dye house has been made; but care and attention are still necessary to obtain best results.

MANPOWER FACTOR

Must Be Right for Success in 1949

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

HIGHLIGHTS: Personnel authorities admit no easy mechanical system of dealing with employee relations—Problem can be solved by rounded program—Cooperation of production men needed for success.

THE MISSING PIECE in the success formula for 1949 is a technology of human management and relations. Management has data on new tools, improved machines, and better fibers, yarns, and fabrics. It can build windowless, unbelievably modern buildings. It sets up mechanical handling systems that eliminate burdensome hauling and shuffling of products and parts in mill alleys. But management still looks for the details of a foolproof system of human management and relations.

PERSONNEL FUNDAMENTALS. Several fundamentals in personnel work follow:

1. Early postwar emphasis upon how-to-deal-with-people devices led to a flimsy assumption that there was an easy way to deal with people. This idea, was overemphasized to the point that some production men believed that personnel or labor-relations experts could devise mechanical methods of solving every human snarl that hindered production. Better belief now is that it is unwise to base personnel policy upon any easy how-to-deal-with-people theme, and suggests that it should rather be based upon "how to deal with people so that they have the capacity and the will to produce effectively for their own and the community's good."

2. Personnel policy (in most mills) can aid the how-to-deal-with-people ability of a given organization in only two ways: (1) by education and training of the people involved—the supervisory force, the employees, and the public; and (2) by specialized training of supervisory and pre-supervisory personnel in human relations and in specific definition of the various levels of authority in the line organization.

3. The mill should keep the general public posted on matters of general interest and should give the personnel department a voice in the preparation of information to be released to the general public; for it is from this public that the department on behalf of the mill must draw its labor force.

5. Costs of extra personnel services may be as much a part of the necessary investment as the building itself. In some localities, it is necessary to give supplementary services such as cafeterias, transportation, etc. A wise use of these miscellaneous personnel services would follow under an enlightened mill personnel policy.

6. Employees' contributions to lowered costs and improved quality should be recognized and rewarded.

7. The timidity of some production men regarding a more general application of standards and methods engineering should be overcome. While this work is not usually under the personnel department, the latter has a special interest in any matter that affects working conditions and should be consulted. A wise use of incentives is healthy. They are an American way of rewarding individual workers according to ability and capacity.

A PROGRAM FOR 1949. The progressive production manager or superintendent who wants to make a quick check of his personnel program for 1949 should ask himself these questions:

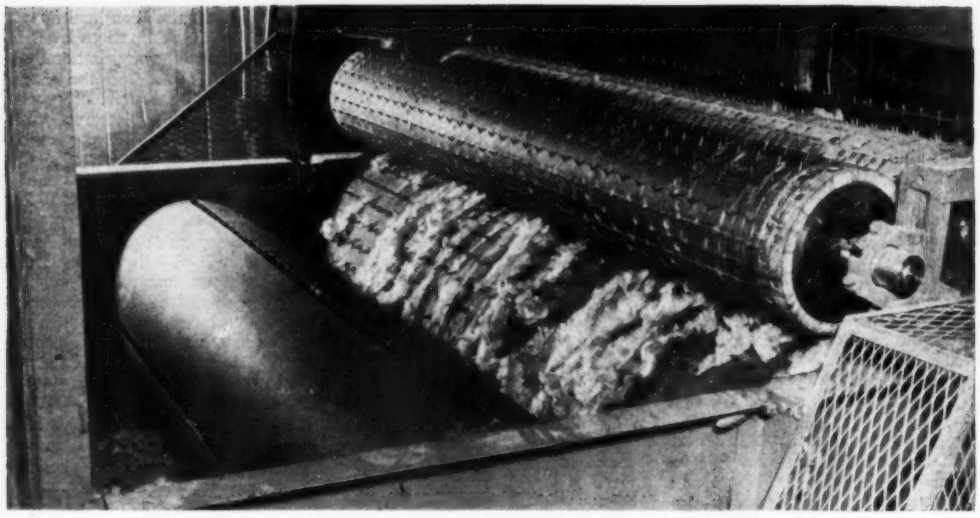
1. Is my personnel policy based upon an easy how-to-deal-with-people program, or upon the more fundamental "how to deal with people so that they have the capacity and the will to produce for their own and the community's good"?

2. Are the dollars-and-cents costs of my personnel services merely expenses or are they necessary investments?

3. Do my various training programs tap the store of experience and practical knowledge that I pay for in salaries to superintendents, overseers, and assistant overseers?

4. Does my mill issue general information from time to time to the mill personnel, and to the public through newspapers and industrial papers, in order to provide these important groups with a direct source of information rather than the "grapevine" that does not always report the facts?

The production manager, or superintendent, who answers "yes" to this self-imposed questionnaire is—in the opinion of leading authorities—preparing a personnel program not only for 1949 but also for 1959.



RETRACTABLE-PIN BEATER, left, keeps wool from winding around the roll in the new Rocar unit.

New Preparatory Machines Speed WOOL SCOURING

HIGHLIGHTS: *East Weymouth Wool Scouring Co. has three in operation —Better opening attested to by top maker and woolen mill—Production per unit can be up to 8,000 lb. per hr.—System called Rocar—Preparatory cost and work reduced.*

By GUSTAV ZELLNIK
Consulting Editor, TEXTILE WORLD

East Weymouth Wool Scouring Co., East Weymouth, Mass., has installed three new preparatory machines which its president, Byran Leonard, states open wool well with a minimum of fiber damage. For years Mr. Leonard has been working with H. B. Riehl, chief engineer of the Textile Machinery Division of Proctor and Schwartz, Inc., Philadelphia, Pa., to construct the units which have now been shown to reduce the unit cost of preparing wool by 25% and to cut the operators' work load by a third.

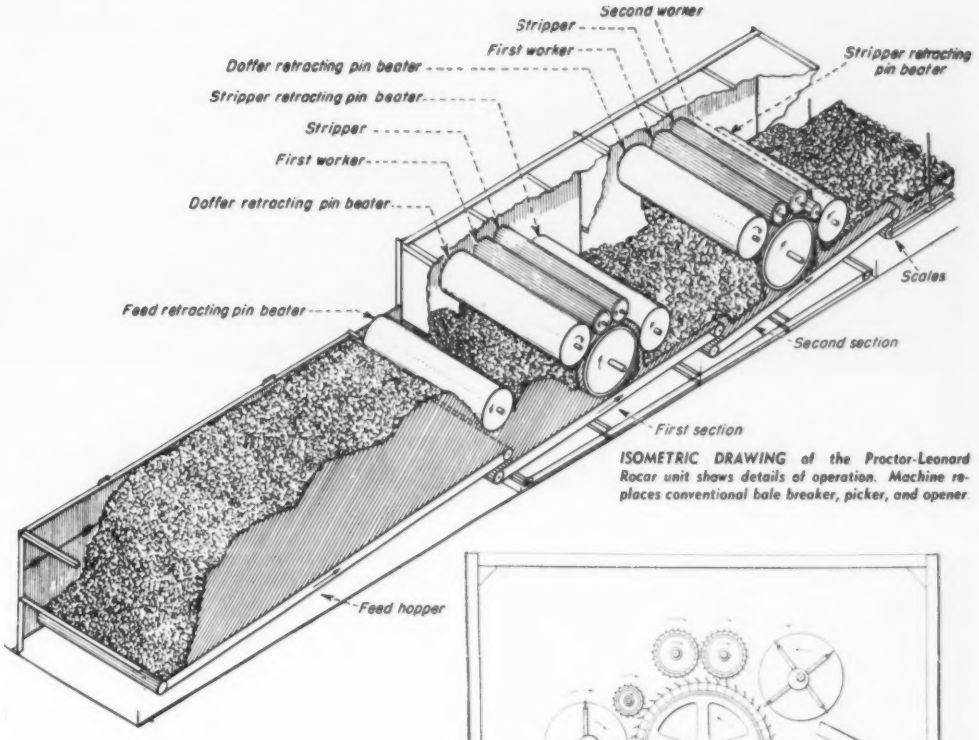
It is generally admitted that the bale breaker, the picker, and the two-cylinder wool opener injure fibers to a degree, and nothing can be done later to eliminate the damage. When the hydraulically pressed wool bales are received at the scouring plant, opening usually has to be done by hand. Of course, when sorting takes place before any processing, then all work has to be done by hand.

When compressed bales are received in cold weather, the bales usually go first to a steam room to soften the wool; but even steaming is often not sufficient to eliminate some handwork and the additional labor that is necessary to avoid too much damage to the fiber in the opening process. In summer, steaming is eliminated, but still wool has often been initially opened by hand when compressed bales are received.

Mr. Leonard and Mr. Riehl long felt that any equipment for opening wool before scouring should do the following: (1) eliminate manual handling, (2) open the fibers gently without breaking them or harming the epidermis, (3) deliver the fibers in a more-or-less-carded condition to the scouring range, (4) achieve high production without resorting to high speeds, (5) simplify the preparation for loosening fibers, (6) minimize the use of manpower, (7) synchronize the entire opening process, (8) leave as little dust as possible, (9) break up the big burr clusters, (10) not remove any grease in spite of the material going over a number of cylinders and rolls, and (11) keep the machine clean to avoid stripping and degreasing over a long period of time.

SYSTEM FOUND. A system was developed which incorporates the foregoing; and it is in operation at the East Weymouth plant. It is known as the Proctor-Leonard Rocar system. The system consists, first, of a feed hopper which may have any length but must have the same width as the balance of the machine. The feed hopper serves as a storage and blending bin to insure continuous operation of the machine. It also permits a great decrease in manpower; the bin may be loaded with a large amount of wool. This section contains one

The name Rocar is a contraction of rotary and card. The opening is not a true carding operation, but the machine used somewhat resembles a card

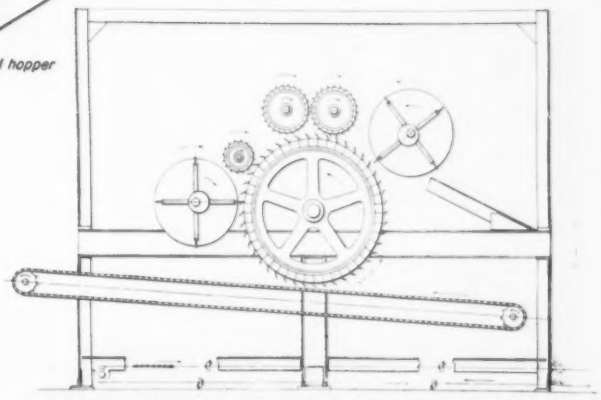


ISOMETRIC DRAWING of the Proctor-Leonard Rocar unit shows details of operation. Machine replaces conventional bale breaker, picker, and opener.

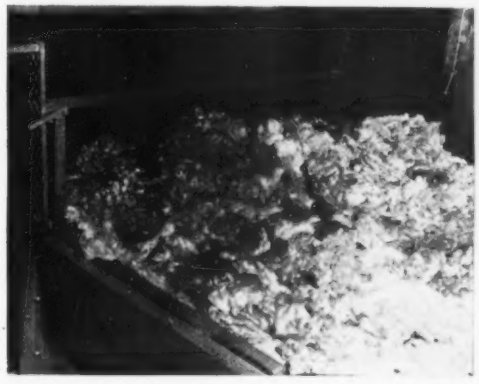
doffer with retracting teeth, one 36-in. diameter cylinder, one worker and stripper, and one stripper with a retracting-pin beater.

From the hopper unit, the wool is conveyed to a second section which has the same arrangement with the exception of two workers and one stripper; but the pins are much finer than those of the first section.

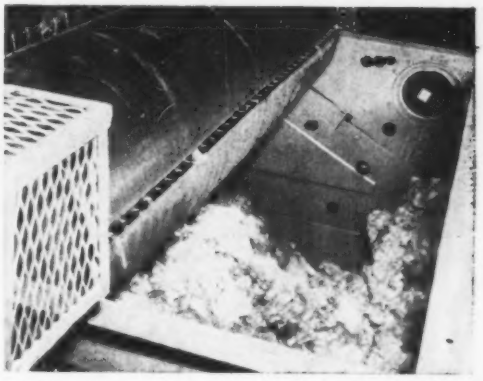
(Continued on page 206)



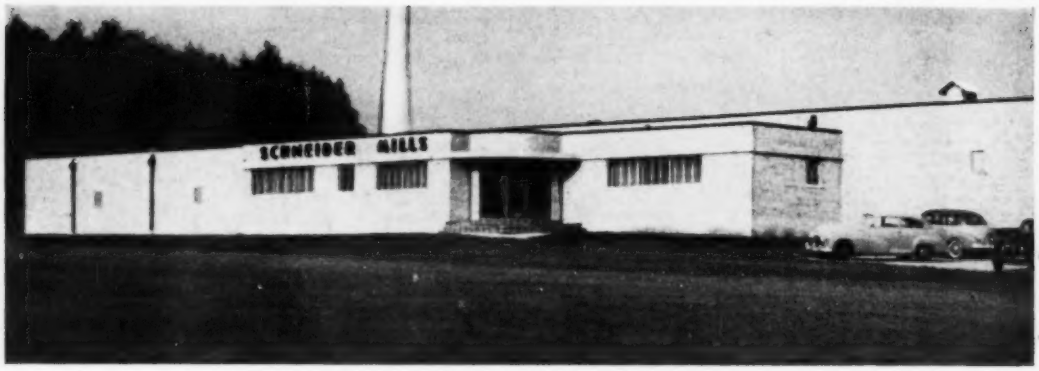
RELATIVE POSITIONS of main cylinder, worker, stripper, doffer, and retractable-pin beater can be seen in this cross-section.



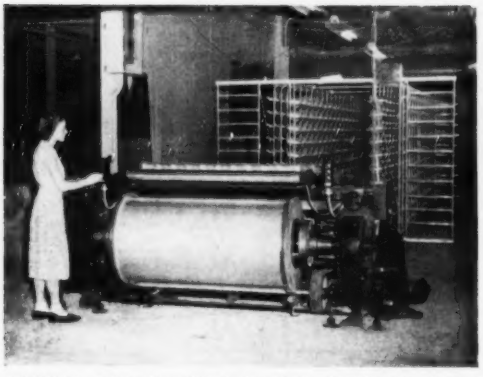
WOOL FROM FEED APRON goes first to the retractable-pin beater. Hand opening can be kept to a minimum.



"SEEING EYE" is mounted on side of frame. It controls thickness of the wool layer being fed.

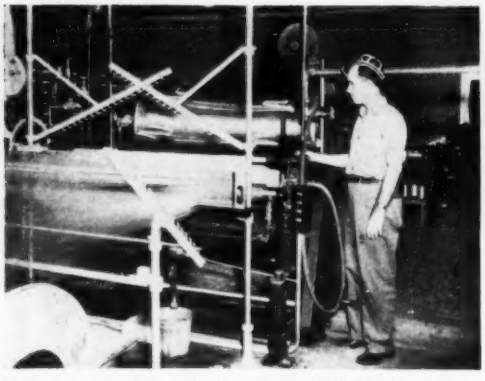


RAYON-WEAVING MILL

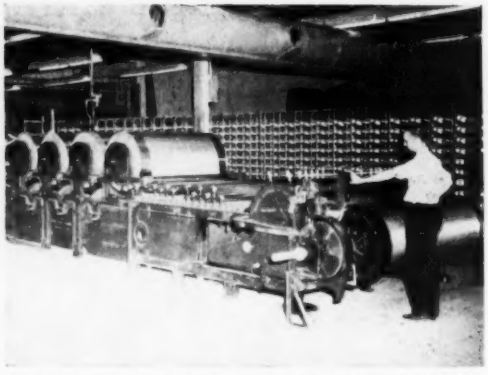


WARPING at Schneider Mills is here being done by Edna Barnes, who is shown on the 16th beam of a set, 12 of which, by slashing records, had no ends out at the slasher.

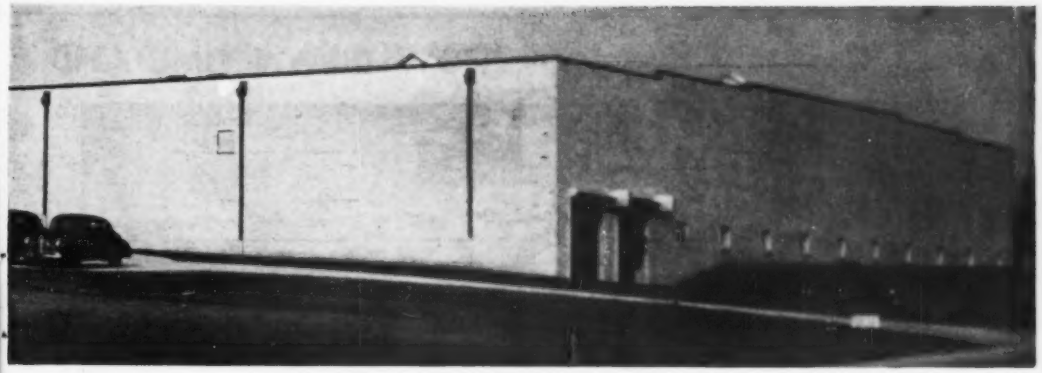
SIZE MIX of 86 lb. of Stymer per 100 gal. of water is examined by Schneider Mills' superintendent, B. T. Gladden, (right) and TEXTILE WORLD'S Southern Editor Mal Bowden.



SIZE BOX temperature for 75-den. acetate is 180° F. First cylinder is 190°; the next five are 180°.



SLASHER operator Mack Deal is running this acetate warp with the last cylinder cold. The peak heat is 190° F.



Is Called Ultramodern

HIGHLIGHTS: *Schneider Mills, Taylorsville, N. C., has emergency lighting that plugs into 110-volt, 60-cycle, a. c. current—Drawing-in machine to be installed—New warp-preparation and weaving equipment now operating in 343x205 ft. windowless building—Slashing produced 12 successive 75-den. warps with no ends out at slasher.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

EMERGENCY LIGHTING, a Barber-Colman drawing-in machine, and Thermopane windows are some of the structural and equipment details of an ultramodern rayon-weaving mill built by Schneider Mills at Taylorsville, N. C. Now starting up, the mill will have throwing equipment and an additional weave-room when present expansion plans are completed.

The 343x205 ft. present plant was designed by Biberstein and Bowles, Charlotte, N. C., to house 458 64-in. Draper XD looms and supplementary equipment and to provide for a well-arranged system for motor transport of materials to and products from the mill. Two electrically operated Moesch-Edwards doors (12x14 ft. each) provide roll-up steel entrances to loading docks that are completely inclosed in the building, thus effecting a system of loading and unloading that is fully protected and controlled by shipping supervisors.

The walls of the building have manganese-spot finish on the outside and glazed tile on the inside. A plank-on-steel-beam Carey roof has 2-in. of insulation topped by tar and gravel. The structure is windowless except for the Thermopane windows of office areas in the front of the building and for conventional windows in small storage areas at the rear.

Offices are air-conditioned by Worthington refrigeration equipment installed by Bahnson. The mill itself is air conditioned by evaporative cooling from a Bahnson cooling and humi-

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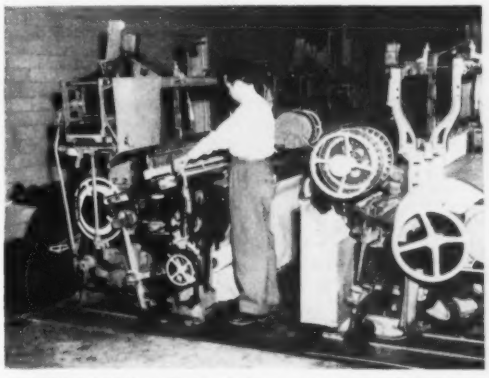
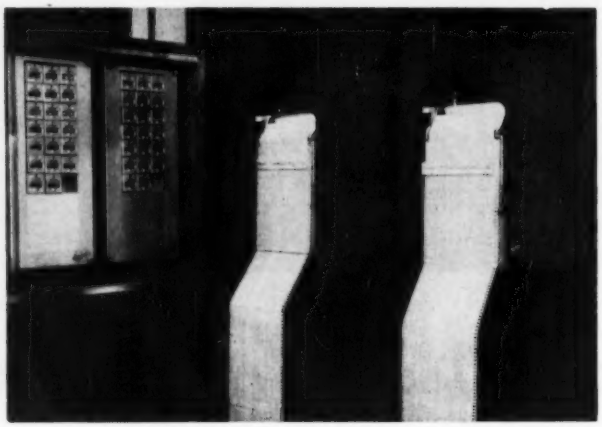


STARTING LOOM *on 75-den. fabric, weaving overseer Robert Paire stands at the beginning of grease-proof asphalt tile area which covers the weave-room floor.*

FLUORESCENT LIGHTING *results in 50 foot-candles of light on warps. Four 100-watt tubes are placed above and at right angles to every pair of looms.*

HOW DOWN TIME AND

1 *WHEN A MACHINE STOPS, the worker dials the number designating the cause as listed on the outer rim.*



2 *SIGNAL IS TRANSMITTED to this central recording room where two machines record operating time, down time, and stoppage causes for each machine. The records disclose minute-to-minute operation.*

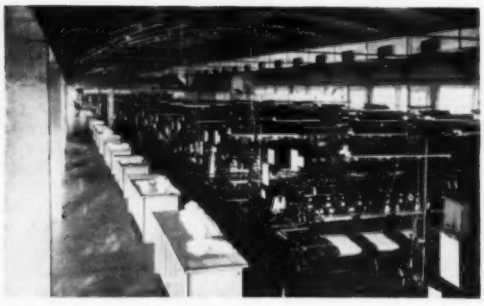
Swedish Mill Charts IDLE TIME and CAUSES

HIGHLIGHTS: *Operating and down time of knitting machines recorded on continuous chart in central production-control office—Dial permits machine operator to register cause of stoppage—Total down time charted on master sheets permits trouble-shooting—Mill has unique maintenance and human relations programs.*

By H. W. ANDERSON
Vice President, H. Brinton Co.

AN AUTOMATIC SYSTEM of recording idle machine time and its causes was the most interesting feature seen in a plant of Aktiebolaget Sveriges Forende Trikofabriker, (Swedish United Knitting Corp.) in Boras, Sweden. The company, owner of 16

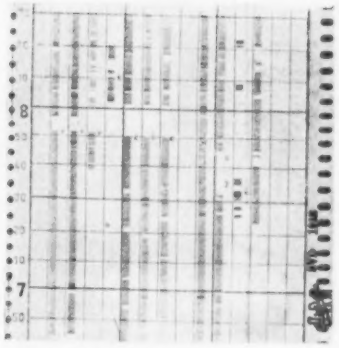
Although exemplified here in a knitting mill installation, this system of recording machine operating and idle time is broadly applicable to many other branches of the textile industry.



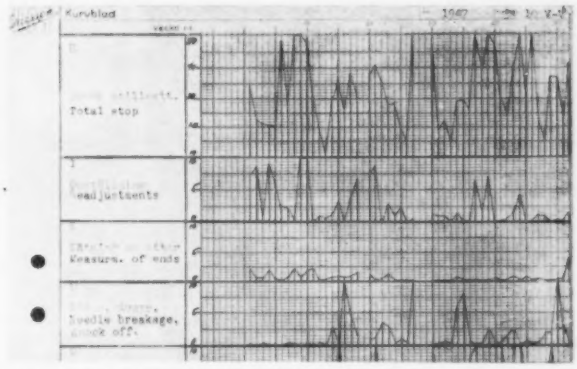
BOWED TRUSSES, a commonly used roof support in Europe, supports roof of full-fashioned-knitting department.

LOOPING is done in this spacious, well-lighted room on a lower floor of the mill building.

ITS CAUSES ARE RECORDED.



3 *EACH LINE designates the operation of one knitting machine. Chart is marked off in 10-min. intervals. When a machine stops, its column stops even though the chart continues to move. The number designating the stoppage cause dialed by the operator is printed on the chart at each stop.*



4 *A MASTER CHART for each machine, to which charted stoppage information is transferred, shows a record of stops by causes for each day over a period of weeks. Thus stoppages attributable to various causes which start running at a high rate can be reduced by appropriate preventive action. Charts for each machine are maintained in a large book permitting long-term machine-efficiency studies.*

mills in Boras and vicinity, also had an up-to-the-minute mill- and machine-maintenance system and refined employee benefits. Products of the mills are all types of knitted fabrics.

In one mill which had power-driven flat-knitting machines, the length of time that any machine was shut down and the cause are automatically recorded by an electrical control device. Mounted next to each machine is a dial mechanism resembling a telephone dial. Each number in the dial, from 1 to 10 designates a specific reason that a machine might be stopped. These causes are:

1—Readjustment
2—Measurement of ends
3—Needle break
4—Yarn break
5—Lubrication or cleaning
6—Wait for repair
7—Machine fault
8—Machine fault
9—Other fault (Definite causes can
10—Other fault (be assigned if desired.

When a machine stops for any of these reasons, the operator dials the number designating the reason. For example, if a needle breaks, the operator dials 3.

ABOUT THE AUTHOR

H. W. ANDERSON, vice president of H. Brinton Co., Philadelphia, Pa., manufacturer of circular knitting machines, has recently returned from an extensive tour of Europe. During his trip Mr. Anderson studied European knitting technology and equipment. His trip covered England, France, Italy, Switzerland, Holland, Belgium, Netherlands, Denmark, and Sweden.

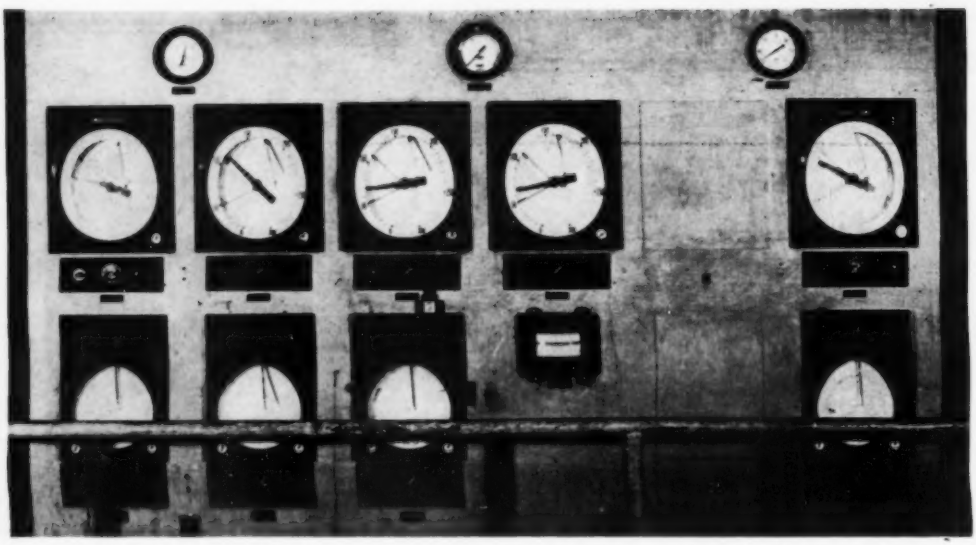
The central system carries the stop-cause signal to a recorder in the main production-control office where a "3" is imprinted on the running chart in the space showing operation of the machine concerned.

These machine charts provide a space for each machine in the department. As long as the machine is running, a wheel prints a line on the chart which is graduated by hours in 10-min. increments. When the machine stops, the inked line ends and the number showing the cause of the stop is imprinted. The chart continues to move, and as soon as the machine is started up again, the inked line is again imprinted. The length of breaks in the line shows the length of stoppage in minutes.

(Continued on page 232)

***A DAY SCHOOL** for children occupies this entire building located conveniently to the mill.*

***CHILDREN RECEIVE CARE** and recreation while mothers work in the mill.*



CONTROL PANEL for single-stage bleaching range shows pressure gages on top, temperature controllers in middle row, and level and flow controllers and tachometer on bottom row.

Continuous Bleaching Improved By INSTRUMENTATION

HIGHLIGHTS: *Speed control essential—Steam-flow meter can show waste and help cost accounting—Control panel saves manpower—Similarity in instruments aids maintenance—Air pressure recommended for squeeze rolls—Relays can cut off steam and water when motor stops.*

By C. W. BOWDEN, Jr.

Technical Section, Brown Instrument Co.

THERE IS LITTLE ADVANTAGE to installing a continuous-bleach range if waste of chemicals, power, and man-hours dissipate the economy of operation normally derived from this process. It is also shortsighted to permit variations in operating conditions to destroy uniformity.

For one thing, satisfactory operation of a continuous-bleach range requires the cloth speed to remain uniform. Since the time of treatment in the J-box or steamer is largely a matter of the range speed, fluctuations in speed cause non-uniform bleaching. Furthermore, the speed at which the cloth enters the range must be equal to the speed at which it leaves to preclude obvious difficulties.

Tachometers at the entering and delivery end of the range provide a ready answer to the speed-control problem. The tachometer generators can be operated by any driving roll on the range. Frequently, they are geared to the saturator squeeze rolls.

Recording tachometers are often used on bleaching ranges, and indicating types are used in some instances. Either type is available with automatic control, but manual control of speed is most frequently used.

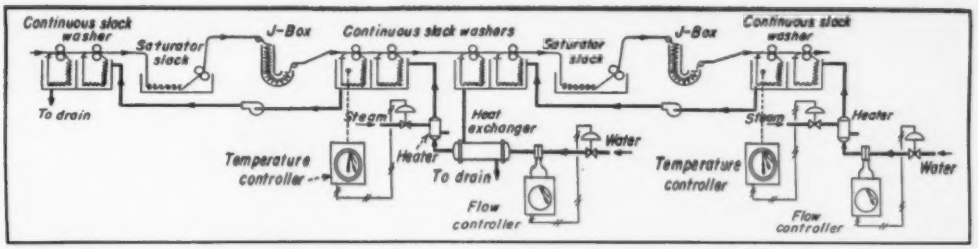
Important to the economy of the range is the master steam-flow meter. This meter should be a recording and integrating type which measures the steam flow to the entire range and shows at a glance the instantaneous rate of flow and the total quantity of steam used. Thus, its record is the basis for steam accounting and for calculating operating costs of the range. The master flow meter is also valuable to indicate trends and disclose any steam waste.

PRESSURE GAGES. Often dial-indicating pressure gages are used on the main instrument panel of bleaching ranges to measure instrument air-supply pressure, service-steam pressure, steam-distribution-chest pressure, and service-air pressure. The actual number of these gages which are required depends upon operating conditions in each individual plant.

Installation of the tachometers, flow meter, and pressure gages will vary from range to range but will not involve complications.

It is customary to mount the instruments for the whole range on one central panel at a convenient location from which all operating equipment can be seen, such as shown in the headpiece illustration. This permits operation of the entire range from the control panel and results in more efficient utilization of available manpower.

Generally, instrument maintenance is below the expectations of users, especially when there is a similarity



TYPICAL WASHER-CONTROL SYSTEM on continuous-bleaching range requires two sets of controllers. Relays are recommended but not shown.

of instruments employed. Similarity means that stocks of spare parts may be reduced and the training of instrument repairmen simplified.

REAGENT APPLICATION. One of the most important steps in continuous bleaching is the application of reagents to the fabric in the saturator. If an insufficient quantity of reagent is applied, underbleaching results; if an excess is applied, chemicals are wasted, and subsequent washing becomes more difficult. The most frequent fault of saturation, however, is nonuniformity which, of course, results in a non-uniform bleach.

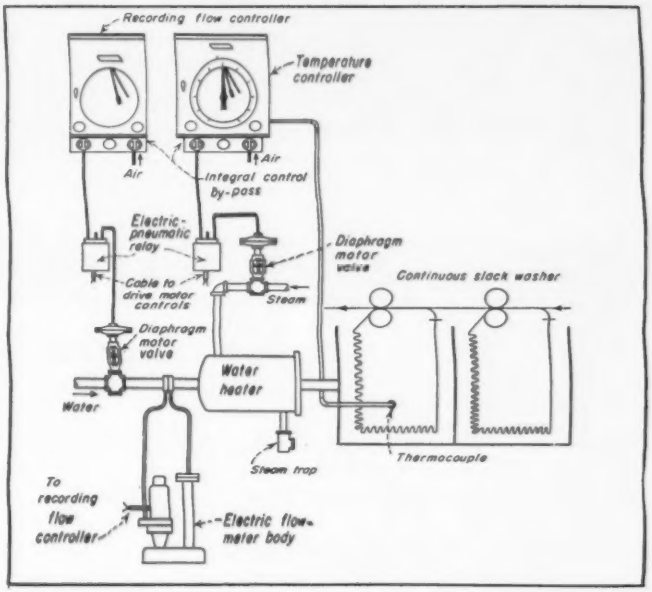
The critical variables in saturation are the moisture content of the cloth as it enters and leaves the saturator, the liquid level in the saturator, concentration of the saturator solution, and the operating temperature.

Moisture content of the cloth is regulated by the pressure of the squeeze rolls; but even under the best conditions of roll loading, cloth moisture content rarely remains constant. This is particularly true in rope-type ranges because of the varying number of thicknesses passing between the rolls.

Differences in moisture content of the cloth as it enters and leaves the saturator cause uneven exhaustion of the saturator liquor. This, in turn, necessitates continued adjustment of the rate of liquid addition. Otherwise, it is likely that the saturator will either overflow or the level fall so low as to cause insufficient saturation.

Chemical reagents are often delivered to the saturator in a relatively concentrated solution, and the liquid level is maintained by the addition of water. In such cases, level control is highly useful.

Although a liquid-level controller in itself will not prevent overflowing of the saturator, overflowing can be prevented by adjustment of the squeeze rolls. When rolls are loaded so that the cloth leaving the saturator contains more liquid than the cloth entering the saturator, the level in the saturator will tend to fall. A liquid-level controller of the bubbler type can then be used to hold the desired level.



CONTROL OF HEAT AND WATER permits economy of operation as well as uniformity of results.

The temperature of the saturator solutions has a much greater effect upon uniformity and quality of bleach than is generally appreciated. Far better and more consistent saturation is secured when the solutions are warm than when they are cold. Furthermore, saturation at a uniform elevated temperature greatly simplifies the problem of temperature control in the J-box.

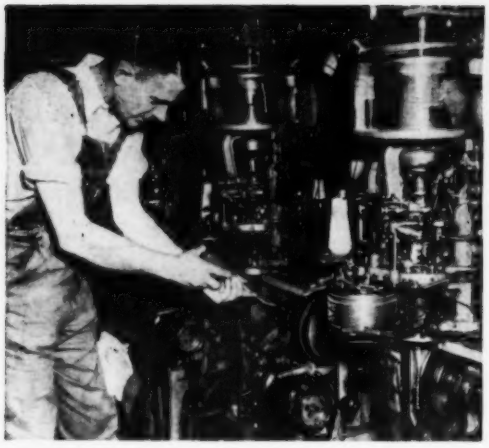
When caustic saturators are heated, temperature control is essential to the safety of operators. Whenever heat is used, there is always a possibility that inattention or neglect by an operator may result in raising the caustic solution to the boiling point. Spattering of boiling caustic solution can result in serious personal injury.

For the peroxide saturator, temperature control is equally important. The amount of heat added must be carefully controlled because the rate of decomposition of peroxide increases sharply above approximately 120° F. Peroxide is expensive, and every practical means should be utilized to conserve it.

Saturator temperature is controlled by means of a potentiometer (such as the ElectroniK) which operates a valve on the steam line. The type of instrument used for optimum operation should be highly dependable, easy to install, and simple to maintain. It should also be accurate, have high sensitivity, and give a fast response to temperature change.

Unlike pressure-type thermal systems, damaged potentiometer thermal systems can be repaired in a matter of minutes by the user. Thermo-

(*Continued on page 211*)



OILING GEAR BEARINGS on the HH-PW machine with a pressure lubricator speeds up the oiling job.

GLASS SIGHT-FEEDS on motors reduce the possibility of bearing failures, speed up the inspection of these vital lubrication points.

HALF-HOSE LUBRICATION Should Be Simple

HIGHLIGHTS: *Simple system works best for varied machines—New model machines require lubrication of gears twice per week, sinker heads once every 8 hr.—Pressure lubricator forces oil throughout bearing surface.*

By JOHN SIMMONS
Waldensian Hosiery Mills

LUBRICATION AND MAINTENANCE of half-hose machines have been simplified by better machine design and by better fixer practice. In the past, many worthwhile improvements received only local acceptance and resulted in a diversity of maintenance techniques among knitting mills. To speed the trend toward wider acceptance of new ideas, one important machine manufacturer adopted a suggestion system by which the fixer of any mill could suggest and receive compensation for improvements in that particular manufacturer's equipment. The suggestions made to this manufacturer were incorporated into the latest models of his machines, and a continuation of this policy will mean simpler, more effective maintenance practice.

Maintenance and lubrication of half-hose equipment is one of the most important functions and responsibilies of the knitting room, because the shortage of metal parts, such as needles, continues. As a result, mills are taking better care of their machines.

One of the most widely diversified plants in the industry uses the simple lubrication chart shown in Fig. 1. Backed up by proper supervision and competent fixers, the chart can serve as a guide for a great variety of half-hose machines. Obviously, a mill with many varieties of needles, gages, and machine types, cannot effectively maintain a particular lubrication or maintenance schedule for each type. The chart shown in Fig. 1 is suggested for the following machines: Hemphill Banner Wrap-Reverse, Scott & Williams HH-PW, Scott & Williams ES, Scott & Williams Dancing Twins 400-needle, and Scott & Williams Komet.

While some variation in the schedule would be suitable if the mill had

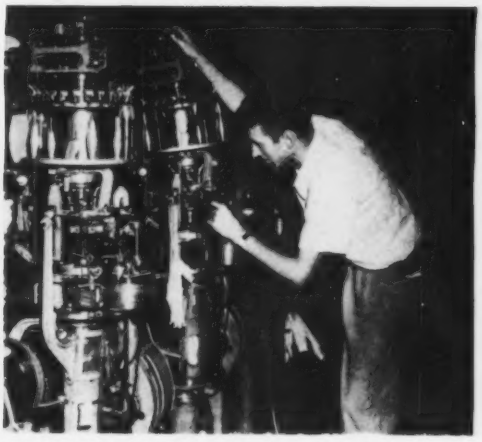
Fig. 1. LUBRICATION CHART

Machine	Lubricate Gears	Lubricate Sinker Heads	Lubricate Cylinders	Lubricate Cam Races
400-needle "K"	Twice a wk.[1]	Once per 8 hr.[2]	Once per 8 hr.	Once per 8 hr.[5]
HH-PW	Twice a wk.	Once per 8 hr.	Once per 8 hr.	Once per 8 hr.
ES	Twice a wk.	Once per 8 hr.	Once per 8 hr.	Once per 8 hr.
Banner	Twice a wk.	Once per 8 hr.	Once per 8 hr.	Once per 8 hr.
Komet[3]	Twice a wk.[4]	Once per 8 hr.	Once per 8 hr.	Once per 8 hr.

Line-shafting ball bearings greased every 6 months.
Motor sight feeds inspected daily, kept full with medium-weight motor oil.
Needle butts brushed with absorbed oil once each 24 hr.

[1] Medium-weight (30) motor oil by pressure can.
[2] White, stainless oil.
[3] Non-fluid by pressure can.
[4] Sinker pot greased once a week by gun.
[5] Komet's selector brushed with absorbed oil once each 24 hr.

NEW MODELS of Komet machines have new oiling locations for segment gears that simplify oiling.



INSPECTION OF MACHINE to determine overhauling or replacement is minimized when lubrication has been ample.

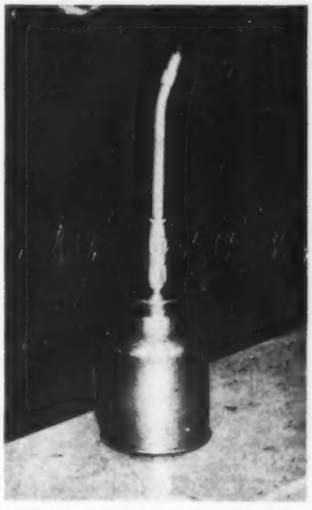
only one type of machine, the simplified program is suggested as a basic workable schedule for the mill that has all or nearly all of the machines named.

The schedule takes advantage of the latest developments and improvements by the manufacturers. It incorporates methods that the mill fixers worked out to simplify and facilitate knitting-machine lubrication. It systematizes the inspection of motors, line-shafting, gears, and bearings by regular on-the-job fixers; and it requires a twice-a-year inspection of motors which may then also be torn down, cleaned, overhauled, rewound, or re-equipped with bearings as needed.

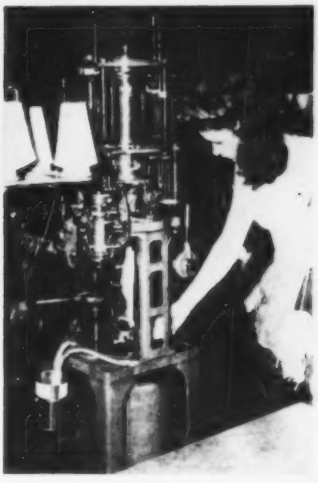
MACHINE UPKEEP. Improvements in the newer models of the Komet machine have resulted in better oiling facilities and added usefulness of this versatile knitter. The new oil container for the segment gear is a good example of the type of improvement. On older models, the gear was oiled through an opening in the gear frame. On the new models, the shafts have been counterbored, and the oil receptacles have been placed on the outside of the gear frame. The new oiling locations are more conspicuous, more easily found, and less likely to be missed by the fixer. Newer models also have grease nipples on the sinker pot. On older models, it was necessary to remove the cylinder in order to oil the pot thoroughly. A grease, or a so-called "absorbed" oil, is now applied at this point twice a week.

Use of a pressure can, such as the Morrow pressure lubricator, facilitates the oiling of gears at one mill. Lint

(Continued on page 218)



PRESSURE CYLINDER of the lubricator is located in the spout and actuated by spring bottom of the can.

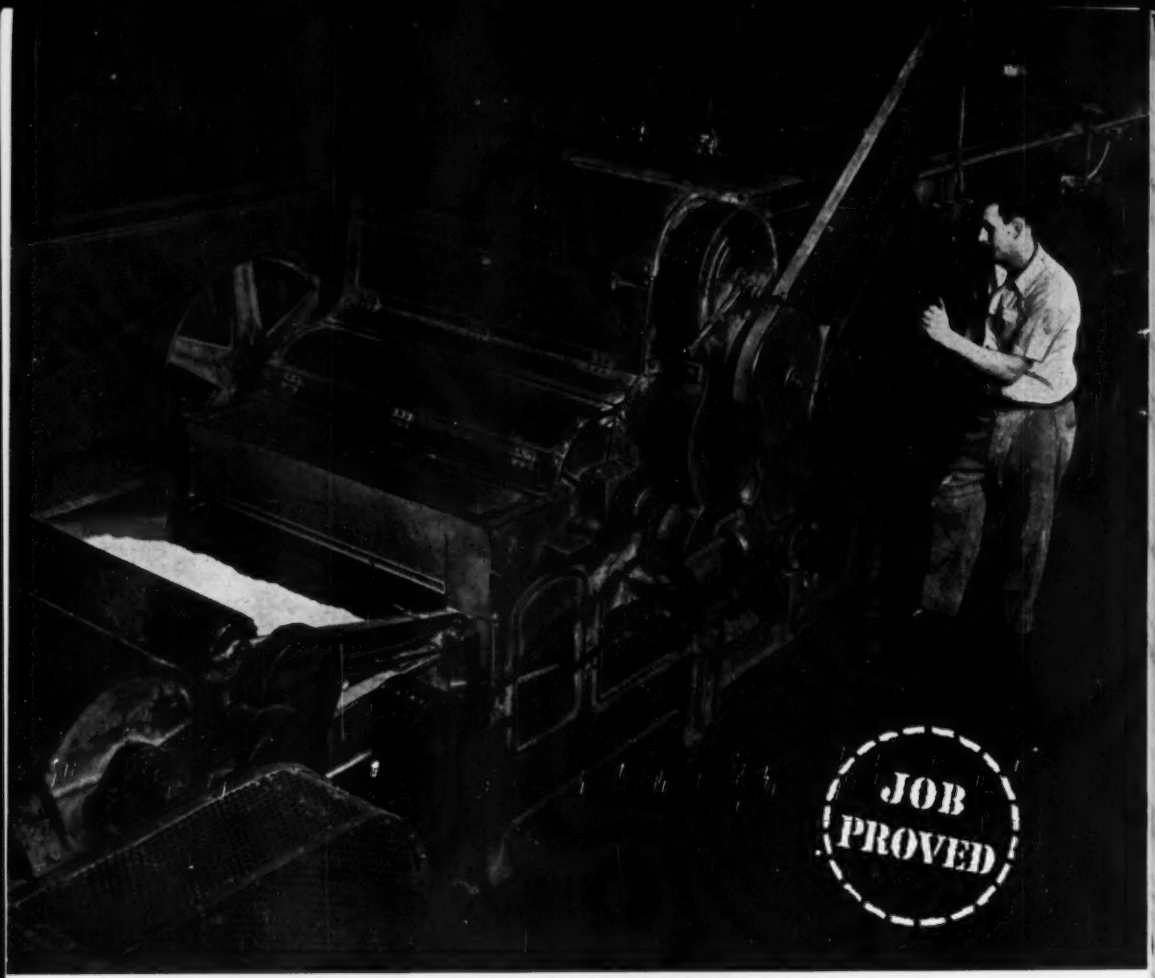


GREASE-STAINED GOODS are avoided at the takeup of this machine by a simple wick system leading from the gear base to an oil container at the rear of the machine.

Fig. 2. PERIODIC INSPECTION TO DETERMINE OVERHAULING OR REPLACEMENT

Machine	Gears	Bearings	Cam Rings	Sinker Heads	Cylinder
400-needle "K"	Inspect once a wk.*	Inspect once a wk.*	Regular fixer inspections and replacements.		
HH-PW	Inspect once a wk.	Inspect once a wk.	Regular fixer inspections and replacements.		
ES	Inspect once a wk.	Inspect once a wk.	Regular fixer inspections and replacements.		
Banner	Inspect once a wk.	Inspect once a wk.	Regular fixer inspections and replacements.		
Komet	Inspect once a wk.	Inspect once a wk.	Regular fixer inspections and replacements.		

* By head fixer during regular working hours.



ENDS CORROSION TROUBLES

Sun Textile-Processing Oil Solves Tough Problem for Cotton-Goods Manufacturer—and Profits Him More Ways Than One

A manufacturer of cotton fabrics was having corrosion troubles in his textile machines because of the processing oil being used. Yet it was an expensive oil. Moreover, it had to be sprayed on the fibers by special, rented equipment.

At the suggestion of one of our engineers, the manufacturer switched to a Sun Textile-Processing Oil, widely "Job Proved" in the industry, and absolutely noncorrosive. It proved to be just the oil he was looking for. It gave his fabrics the necessary quality, speeded production, widened the profit margin. It reduced the cost of processing-oil approximately $1,000 a year. And it enabled him to replace the rented equipment with low-cost, standard machines.

Sun Textile-Processing Oils have always enjoyed a favored place in the industry. In protecting machinery, reducing maintenance, improving quality and raising output, these oils have "Job Proved" superiority. They are easy to mix, easy to use. They form stable emulsions, do not turn rancid. Whatever the fiber or operation, there is a Sun Processing Oil to lighten your production problems. For full information, call the nearest Sun Office.

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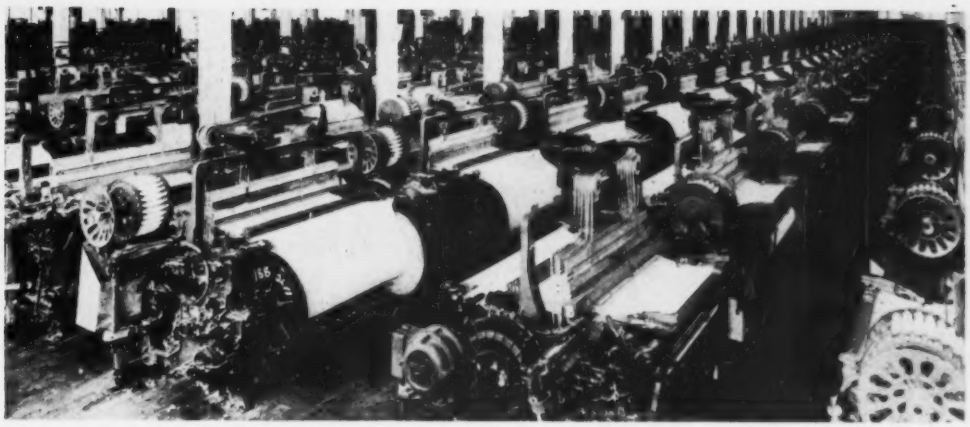


WEAVE-ROOM METHODS
Explored by Georgia Men

HIGHLIGHTS: *Cost of loom parts ranges from $0.38 per week for a 40-in. X-2 loom to $3.44 per week for a 72-in. jacquard loom, Georgia mill men report—Shuttle life ranges from 672 hours to 3,427 hours—Weavers handle from 35 to 60 stops per hour—Air changing reduces room temperature as much as 13° F.*

THE TEXTILE OPERATING EXECUTIVES OF GEORGIA *discussed twelve questions on weaving practices at their fall meeting. Well before the meeting, every Georgia mill was requested to send in questions it wanted discussed. The twelve questions selected from those contributed were sent to the mills; and written answers were received from 19 Georgia mills and mill groups, operating a total of 1,075,966 spindles and 23,309 looms.*

Answers to the questions on weaving are condensed here for easy reading. For a similar report on answers to ten questions on slashing, see the January issue of TEXTILE WORLD.

THE BEST WAY to change a loom so that an 8¾-in. filling bobbin can be used instead of an 8-in. bobbin is to change the lay end of the loom, according to information given by a majority of mills that reported on this question for the fall meeting of the Textile Operating Executives of Georgia.

Thirteen mills sent in written reports on the question. Seven of them stated that their practice has been to change lay ends to accommodate the longer bobbin. Three mills cut out the inside of the shuttle so that it would take the longer quill. One mill followed both these practices, and two others, listed as Mills H and I, prefer to change as follows:

Mill H: "The only changes necessary on an E-model Draper loom are:

1. Put on a longer transfer fork.
2. Widen the battery by moving the small end disk on disk stud.
3. Use small pickers and remove necessary amount of packing back of pickers.

"To change a C&K box loom, it is necessary to make the following changes:

1. Put longer cross rods in the magazine.
2. Put in longer bobbin cradles.
3. Remove necessary amount of packing back of picker.
4. Align magazine to boxed shuttles.
5. See that transfer hammer is properly adjusted to full bobbin.

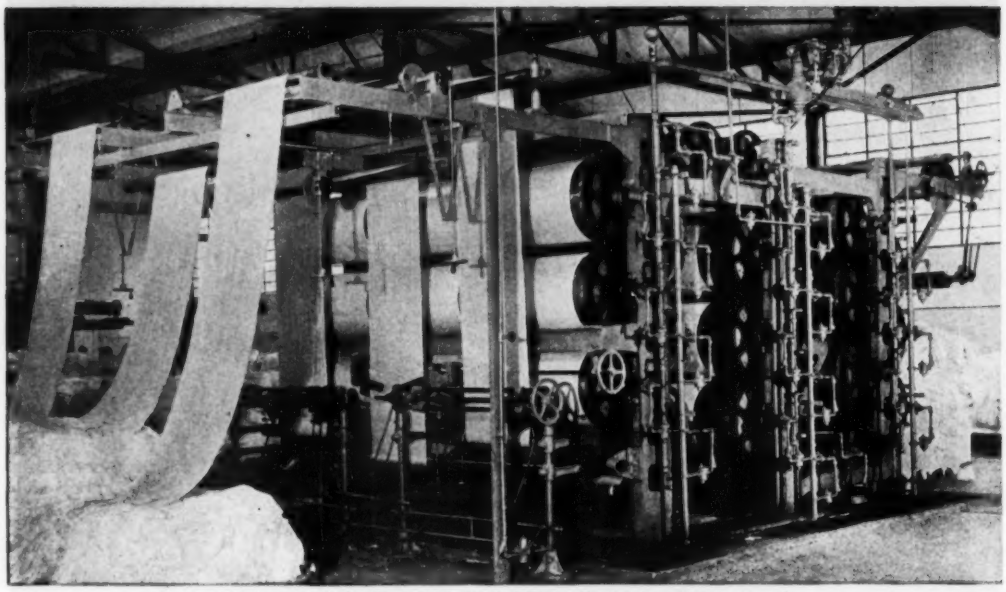
"The life of a shuttle is shortened by approximately 20%, but we think we will overcome this by better loom-fixing and by checking shuttles regularly each week. The quality of our goods has not been affected by making this change."

CHANGE LOOM. Mill I: "Will recommend making a complete change of the loom in changing from 8-in. bobbins to 8¾-in. bobbins, in order that a larger shuttle may be used to accommodate a filling package larger in diameter as well as longer. This change necessitates changing the following parts: hopper stand, small and large end bobbin disks, lay ends, and front and back box plates."

Mill S, one of the seven mills that change the lay end of the loom, reported:

"It has been our experience that the best way to change from an 8-in. bobbin, to an 8¾-in. bobbin is to change the lay end on the battery side and the back boxes on both sides. The cost of this change is approximately $10.00 per loom. We have found that a shuttle that has been cut out doesn't have sufficient stock between the shuttle eye and the knurl for the shuttle to take the necessary punishment; therefore, the shuttle life is very short.

"The quality of the goods is better when the lay end is changed. We are running some of the cut-out shuttles; and we find that the filling breaks and catches up more, that there is more



3-string, 24-cylinder Butterworth Vertical Dryer. Equipped with three sets of tension bars and Foxwell Guiders at entering end and folders at delivery side.

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If your drying rate is too slow . . . if you need added drying capacity without plant expansion, find out about high-speed Butterworth Vertical Dryers made with any number of cylinders.

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Butterworth Vertical Dryers are made for single or double strands of fabrics with stainless steel cylinders in diameters from 23 to 84 inches.

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breakage on the transfer, and that we have more smashes."

Mill C, one of the three mills that cut out the shuttle to accommodate the longer bobbin, reported:

"The fastest and cheapest way to change from an 8-in. to an 8¾-in. bobbin is to redesign your shuttle and open your magazine or battery. If you don't have room inside your shuttle to do this, you will have to change the lay end and use a longer shuttle. We have used both methods and find that shuttle life is about the same. However, it is harder to maintain a high standard of quality with the 8¾-in. groove."

BOTTLE OILERS. The use of bottle oilers is more widespread than one-shot lubricating systems among the six mills that reported experience on these methods of lubrication. Five mills use bottle oilers, while only one uses a one-shot system.

Mill D, which uses the one-shot system, reported:

"Our experience with one-shot lubrication on 64-in. XP looms has been good, with the exception of a little trouble with the lubrication gun. The one shot provided more lubricant than was needed, but this fault was corrected.

"We have used this method of lubrication both before the loom was cleaned and after it was cleaned. Both schedules have their advantages and disadvantages. There is a possibility that a pressure fitting may be missed if oiling is done before the loom is cleaned. The advantage is that surplus grease will be removed along with the oil, cotton, etc."

Mill H reported: "We have equipped 178 looms of the latest C & K type with bottle oilers and feel that bottle oilers are helping us in a number of ways, such as cutting our oil cost approximately in half and reducing our labor cost and loom-supply cost. We do not have so much oil dripping on the floor as we did in the past."

Cost of Loom Repair Parts

Mill	Type loom	Speed (ppm)	Shuttle life (loom hours)	Picker life (loom hours)	Check-strap (loom hours)	Cost of parts per loom per week
A	40-in. X-2	192	1,776	549	.....	$0.38
B	E model, modified D, and O—46 in. to 90 in.	95 to 145	1,700	2,182	2,182	.....
C	34-in. E model	156				0.53
	40-in. E model dobby	156				0.40
	40-in. K model dobby	156				0.40
	60-in. K model dobby	130	1,600 average	2,800 average	2,800 average	0.71
	60-in. 4 x 1 dobby	124				1.01
	40-in. 4 x 1 dobby	156				0.70
	68-in. jacquard 4 x 1	130				3.44
	72-in. jacquard 4 x 4	110				3.44
E	X and D models	108 to 154	1,248	925	899	0.69
F	40-in. X model	188	1,100	575	1,250	0.95
	XL model	112	2,200	1,080	1,500	0.50
I	40-in. E model	145	1,100	1,000	925	0.30 to 0.40
J	38-in. C-3 model	164	672	2,145	3,875	1.80
K	46-in. X model	180	1,500	2,400	5,200	0.42
L	32-in. to 96-in. D, E, X, X-2, XL, and O models	....	2,098	688	1,275	.....
M	40-in. E model	160	2,900	1,800	1,600	0.21
	36-in. X model	192	740	465	390	0.53
	40-in.	160	2,230	1,425	1,180	0.25
	44-in. X-2 model	182	1,880	1,200	1,000	0.28
R	E model	172	3,427	926	2,160	0.11
S	40-in. E model	160	2,242	910	2,668	0.23

Mill Q reported: "We have been using bottle oilers for about a year on C&K C-3 and C-5 looms. They can be used on crankshaft bearings, camshaft bearings, and auxiliary cam bearings.

"On most of the newer looms, the fittings can be screwed in easily. On most of the older looms, the cap of the bearing does not have sufficient stock to hold the metal adapter in which the bottle fits. This condition can be remedied by filling up the oil grooves and tapping them out.

"There are many bearings on the older looms, however, that are not easily adaptable for bottle oilers.

"We have had good results and are enthusiastic about the bottle oilers. A very thin mineral oil is recommended for use in them. It is cheaper and better than is the use of the heavier oils.

"Some of our looms run two 40-hr. shifts. The bottles run four weeks without being refilled. We have other looms that run three 48-hr. shifts, and the bottles run three weeks. The bearings are all in good shape, and there is no oil on the surface or dripping on the floor."

CLOTH EDGES. Twelve mills gave suggestions for protecting the edges of cloth woven at the maximum width the loom will carry. The suggestions included:

1. Be sure that the cloth comes off

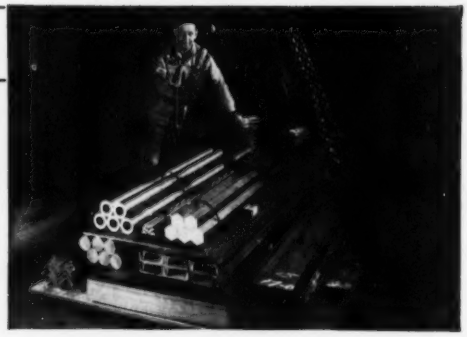
Causes of Tight and Slack Selvages in Napped Fabrics

1. Take-up roll or cloth-roll stand out of adjustment.
2. Take-up blocks worn.
3. Double-spring tension not equal on both sides.
4. Crooked or loose beam head.
5. Sand roll high at one end.
6. Warp reeded in too much.
7. Worn tin on sand roll.
8. Improperly designed fabric.
9. Tape-selvage motion improperly set.
10. High and low places in the beam near the heads.
11. Harnesses not level.
12. Eccentric pin not aligned.
13. Worn or crooked loom-beam journals.
14. Cloth-roll stand not lubricated.
15. Dirt or lint in cloth-roll gears.
16. Plied and single selvage ends mixed.
17. Cam follower arm set at an angle.
18. Rolled or twisted selvage ends.
19. Improperly timed harnesses.
20. Worn or uneven take-up-roll cover.
21. Bent spring shaft on cloth traverse.
22. Broken or clogged teeth in spring-shaft gear or rack, or gear or rack binding.
23. One rack timed ahead of the other.
24. Worn traverse-rack block.
25. Drop-wire box out of line.

Ryerson Answers Important Steel Questions

What can we get?

You can usually get enough carbon, alloy or stainless steel from stock to meet maintenance and repair requirements—and some new equipment needs as well. Tremendous demand often limits the amount that can be shipped, but stainless is in particularly good supply—in fact both alloy and stainless bar stocks and carbon and stainless tubing stocks are better than average. See the product list below.

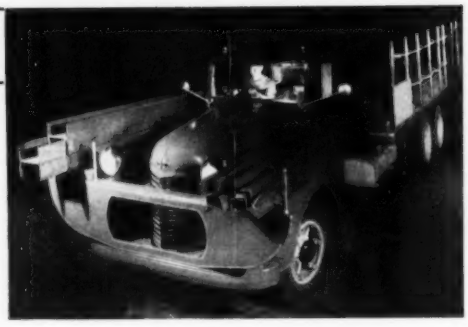


Where can we get it?

For next-door steel service, call your nearest Ryerson plant or office. The nationwide network of Ryerson plants brings steel stocks within short shipping distance of almost any delivery point. As an added convenience for steel buyers, Ryerson maintains sales offices in many cities, connected by direct wire to a neighboring plant.

When can we get it?

When the steel you need is on hand, you get delivery promptly from Ryerson—24-hour service in emergencies. If your requirements are not immediately available, we may be able to suggest workable alternates. We will certainly do our best. And remember, our stocks turn over quickly. We may have kinds and sizes tomorrow that are out of stock today.



So call our nearest plant or office when you need steel. We will be glad to work with you.

Joseph T. Ryerson & Son, Inc. Steel-Service Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco.

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BARS—Carbon & alloy, hot rolled & cold fin., reinforcing
STRUCTURALS—I beams, H beams, channels, angles
PLATES—Sheared & U. M. Inland 4-Way Floor Plate
SHEETS—Many types
TUBING—Seamless & welded mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubes, etc.
BABBITT—bearing metal
MACHINERY & TOOLS—for metal fabrication

RYERSON STEEL

Loom Stops Handled by Weaver

Mill	Loom Stops					Conditions
	Total per hr.	Warp (%)	Filling (%)	Mechanical (%)	Other (%)	
A	45	33	42	25	—	X-2 model looms, 192 ppm.
B	37.5	38	33	14	15	
E	1¼ to 1½ per loom	61	28	11	—	96 x 64; 16s warp, 14.25s filling; 154 ppm.
F	50	55	40	5	—	40-in. loom, 188 ppm. 100-in. loom, 112 ppm.
G	0.50 per loom	40	40	20	—	56 x 56; 21s warp, 25s filling; X model loom; 180 ppm.
H	1.08 stops per loom hr.	0.52 stops per loom hr.	0.43 stops per loom hr.	0.13 stops per loom hr.	—	86 x 64, 32-in. E model, 160 ppm.
I	0.61 stops per M picks	28	70	2	—	29 x 18; 12s warp, 3s filling; 40-in. E model.
J	0.34 stops per M picks	79	12	9	—	42 x 60; C-3 model, 4 x 1; 164 ppm.
K	55 to 60	89	6	5	—	48 x 44; X model; 180 ppm.
L	35	50.35	6.60	43.05	—	Drills and twills; 40-in. E model
M	40	50	40	10	—	108 x 58; 18s warp, 9.50s filling; 44-in. X-2 model; 182 ppm.
N	42	9.9	44.5	9.5	36.1	23 x 23; 10/4 warp, 10/4 filling; 60-in. modified D; 135 ppm.
O	35	52	43	5	—	84 x 28; 42-in. modified D; 150 ppm.
Q	1.85 per loom	1.19 per loom	0.18 per loom	0.48 per loom	—	Terry towels; 15s pile warp, 20/2 ground warp; 34-in. C-3 model; 182 ppm
R	58	74	—	26	—	28 x 24, 36-in. E model, 172 ppm.
S	1.00 per loom	0.55 per loom	0.20 per loom	0.25 per loom	—	67 x 46; 12s warp, 14.50s filling; 39-in. loom; 20 looms per weaver.

as evenly as possible from the sand roll to the cloth roll.

2. Make certain that no bolt heads or other obstructions stick out from the traverse stand.

3. Start the cloth up in the center of the loom.

4. Keep the loom leveled and aligned from the warp to the cloth roll.

5. Keep the traverse clean.

6. Use a cloth-roll tube that is long enough not to work back and forth on the rod. If such tubes are not available, use cardboard or wooden spacers at the ends of the tubes.

7. If necessary, use selvage protectors at the ends of the cloth-roll tube.

8. Use a pipe over the regular cloth-roll rod.

9. Use a minimum amount of oil in and around the area where the cloth must roll up.

10. Clean up all oil and grease around the cloth-roll area every time the loom is doffed.

11. Keep the sand-roll cover in good condition and in place at all times.

12. Keep the cloth take-up working properly.

13. Be sure that the cloth roll has the same tension on both ends.

14. Check cloth-roll bushings; replace if necessary.

15. Make certain that the cloth doffer winds and handles the roll properly.

16. Keep the cloth traverse properly adjusted.

17. Keep the sand roll level and spaced equally between the take-up stands.

18. Reed the warp equally.

TRAINING FIXERS. Most mills that have installed new high-speed looms have trained loomfixers to fix them either by letting them work with the erector or by conducting a course in fixing the new looms.

One mill reported: "When our high-speed looms were installed, a loomfixing class was begun in the mill. We held three classes per week of one hour each. The classes lasted about eight weeks, and all principal motions of the loom were thoroughly covered."

Mill P reported: "We picked our best loomfixers on E model looms and put them with the erector. We then picked our next best fixers and had them attend classes conducted by the erector."

Six mills described air-changing systems in use in their weave rooms. The advantages pointed out included better control of humidity and more comfortable working conditions because of a lower weave-room temperature during hot weather. Reduction in temperature at one mill was said to be about 10° F. and at another about 13° F.

Mill B reported: "We have an air-changing system consisting of six 5-ft. fans that operate at 355 rpm. Each fan removes 48,000 cu. ft. of air per min. The air is completely changed every 4 min.

"All fans are placed on the south side of the weave room. On the north side, we raise every third window about 3 in. to keep air flowing evenly across room. There has been no change in production. Before the fans were installed, the temperature was approximately 95° F. during summer months; now it averages 82°. We had to have the humidifying system reworked to get the proper humidity. The relative humidity is 85%."

DUCT SYSTEM. Mill C reported: "Our system consists of ducts to distribute air evenly throughout the weave room, a steam radiation unit (used in the winter time), and a fan with a fresh-air intake damper and a recirculating damper. The operation of the system is as follows:

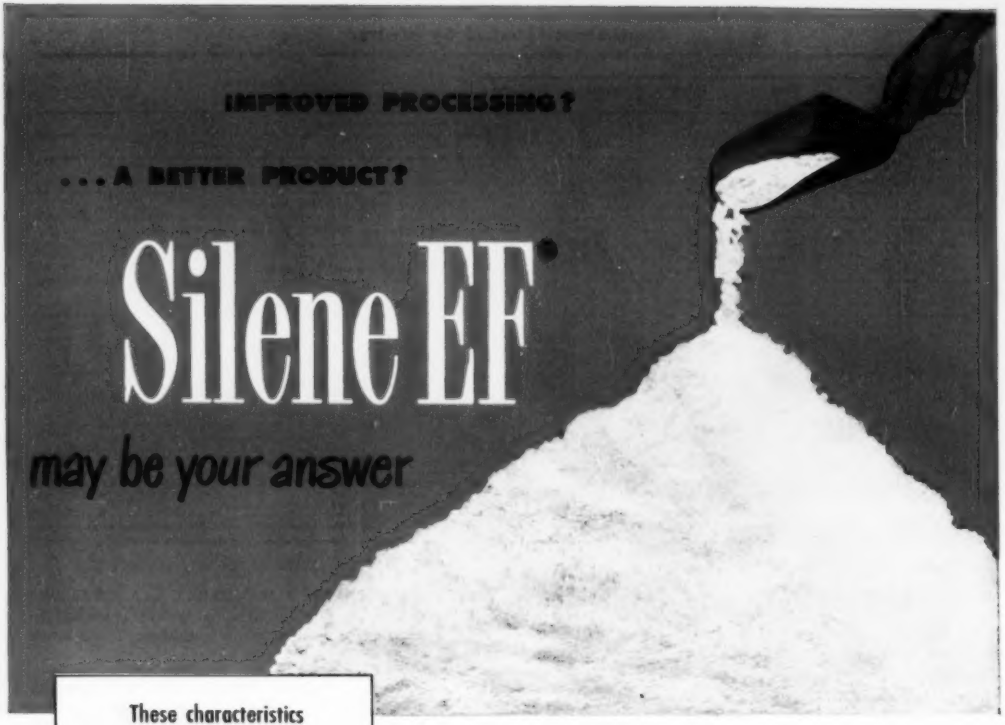
"As the temperature goes above 85°, the damper that admits outside air is opened and fresh air is brought into the weave room. Fresh air is brought in until the temperature goes below 85°. This air is forced into the weave room under pressure and maintains a 2.2-oz. pressure against the outside air.

"When the temperature goes below 85°, the damper that admits fresh air is closed and the air is recirculated through the weave room. When the pressure on the inside is not sufficient to open the louvers, they stay closed until the pressure builds up enough to swing them open. We have a sufficient number of atomizers to maintain correct relative humidity."

Mill F reported: "We have a duct air-changing system in one of our weave rooms and a central-station air-change system in the other. We find that we can keep a much more uniform relative humidity and temperature with the central-station system than with the duct system. However, the duct system is satisfactory."

Mill M, which has a central-station evaporative-cooling system, reported

(Continued on page 234)



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Alkaline reaction	pH 10.1
Particle Size	.035 microns
Bulk Density	15 to 16 lbs. per cu. ft.
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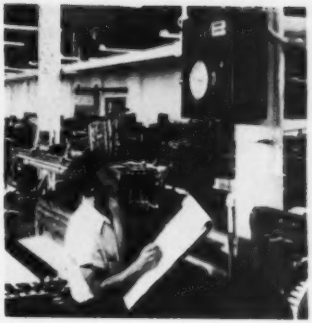


TEMPERATURE AND RELATIVE HUMIDITY are controlled accurately in four zones in the weave room of the Woodside Cotton Mill through a system said to be extremely simple in operation.

IMPURITIES ARE REMOVED from the atmosphere by an air washer and collected in the tank of waste water. Controls, mounted on the side of the washer, regulate the circulation of air by positioning dampers.

ZONED CONDITIONING at Woodside Uses No Steam

HIGHLIGHTS: *Simplicity is keynote of system which accurately controls weave room conditions— Windows bricked up; refrigeration, air-washer, and humidity controls installed—Mill shifted from cotton to spun rayon at same time.*

IN CONVERTING from cotton to staple rayon, Woodside Cotton Mill, Simpsonville, S. C., has installed a weave-room air-conditioning system that incorporates many unusual features from the standpoint of engineering and simplicity of operation.

Experience at Woodside has shown that it is possible to maintain relative humidity at a selected level regardless of outside conditions, assuring maximum production efficiency. One operating innovation is that the system uses no steam, winter or summer.

The reconverted building is of conventional design. Windows were bricked up and the air-conditioning monitor was insulated, but no other steps were taken to provide insulation. The mill contains 25,000 spindles and a 550-loom weave shed. Its dimensions are 125x300 ft.

Existing high-duty heads were used by J. E. Sirrine Co., Greenville, S. C., engineers, for supplementary moisture to economize on the cost of the project.

Control of room conditions is accomplished by use of a Brown ElectroniK wet-bulb controller, departing from the conventional method of using dew-point control of the air washer and snap-acting room hygrostats to operate high-duty heads.

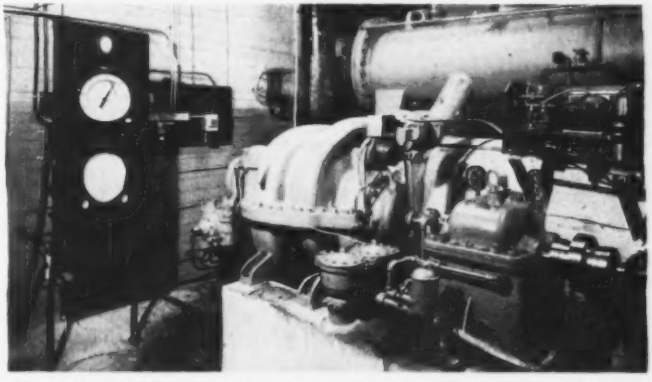
The weave room is divided into four zones, each served by an aspirating cabinet which contains Minneapolis-Honeywell wet- and dry-bulb recorders. On the evaporating-cooling cycle, the room wet-bulb instruments positions the outside and return-air dampers. Room conditions are protected from sudden upsets that might be caused by rapid changes in outdoor temperature by use of an outdoor wet-bulb instrument which over-controls the room wet-bulb instrument.

On the refrigeration cycle, control of outside and return-air dampers is automatically turned over to the outdoor wet-bulb instrument, so that outside or return air is utilized for greatest economy in the cooling operation. During that cycle, the room wet-bulb instrument controls the suction damper on the centrifugal refrigeration machine.

Mill operators believe that the system has met the objectives originally prescribed: to simplify atmospheric control so that it can be maintained at minimum effort and, at the same time, assure optimum conditions.

The fact that the system uses no steam has proved economical from two points. First, the reduction of the load on the boiler made it unnecessary to purchase a new boiler, as had been planned. Second, operating expenses are decreased.

Mechanical contractor for the air conditioning was Kerby Saunders, Inc.; Worthington & Machinery Pump Corp. supplied the 200-ton refrigeration machine; Louis Allis Co., the 150-hp. motor; Buffalo Pump Co., the pumps; Air Refrigeration Corp., the air washer; The Marley Co., induced-draft cooling towers; and American Blower Co., fan.



AIR CONDITIONING system at Woodside is served in summertime by a 200-ton refrigeration machine.

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Alabama Mill Men Study SPINNING PRACTICES

HIGHLIGHTS: *Antifriction spinning spindles save power, Alabama Textile Operating Executives report —Wild yarn and lint cause 16% of loom stops in one mill, 31.99% in another—Scheduled doffing increases production and nets fewer short doffs.*

SPINNING PRACTICES used by member mills of the Alabama Textile Operating Executives were discussed under the leadership of T. H. Floyd, superintendent, Opelika Textile Mills, Opelika, at the fall meeting in Birmingham. Answers given to the six questions on spinning, spooling, warping, and winding are condensed here for easy reading.

For a similar report on six opening, picking, and carding questions, see page 147.

Guide List for Preventing Wild-Yarn Defects

(Used at Textron Southern, Cordova, Ala.)

1. Set snick plates as close as possible.
2. Have spooler hands keep loose yarn picked off snick plates and yarn pockets.
3. Blow off spooler each 4 hr.; blow off warper creel at end of each beam.
4. Blow off stored yarn before it is used.
5. Train spooler tenders in the proper disposal of short pieces of yarn.
6. Have spinning doffers tie down yarn 1 in. from bottom of bobbin.
7. Have spooler tenders break off long yarn tails on bobbins.
8. Keep rotary brush on spooler traveler clean.
9. Keep wild-yarn shears in good shape.
10. Keep slack tube clean.
11. Discard or correct worn or rough spools and beams.
12. Check tying of knotter regularly.
13. Maintain correct settings on detector springs, pressure-lever springs, and rise rolls.
14. Have spooler tenders kink the ends on cheese starters when they are placed on the spooler.
15. Keep cheese arms lined properly; replace all crooked arms.
16. Have warper tenders check each creel for loose ends in drop wires.

A POWER SAVING of about 13% and an increase in spindle speed of a little more than 3% have been realized at Langdale Mill, West Point Mfg. Co., by the installation of antifriction spinning spindles, according to information given at the fall meeting of the Alabama Textile Operating Executives. Frames on 13.50s yarn were speeded from 7,750 to 8,000 rpm. of the spindle.

The spindles have been in too short a time for the mill to have figures available on the life of the paper bobbins used on them, but it is expected that the life of the bobbin will be considerably shorter than the life of a wooden bobbin.

When the spindles were installed, it was necessary for the mill to make special adapters for the spindles of the Barber-Colman spooler.

Another mill reported that it has installed three types of spindles on which it uses straight paper tubes. Spindle speed, bobbin build, and ring size were not changed when these spindles were installed in the place of standard spinning spindles. The roller-bearing spindles have been running 9 months without oil being added. A power saving of 23.8% has been realized.

The wooden-sleeve spindles have been oiled on the same schedule as the mill's standard spindles, and they have shown no decrease in power consumption.

The third type of spindle is a sleeve adapter for warp frames. Regular-schedule oiling is required by these spindles, but a power saving of 20.4% has been gained.

SPINDLES INSTALLED. Mt. Vernon-Woodberry Mills, Tallassee, has installed 20,000 roller-bearing and 20,000 ball-bearing spindles that take tapered paper bobbins. Some of these frames were running 10-in. bobbins with a 9-in. traverse on 2¼-in. rings. They were changed to 12-in. bobbins, an 11-in. traverse, and 2¾-in. rings. The spindle speed of 8,160 rpm. was not changed. Yarn numbers range from 8s to 15s. The rest of the frames were running 8-in. bobbins and a 7-in. traverse. These were changed to 10-in. bobbins and a 9-in. traverse. The 2¼-in. rings were not changed. Spindle speed on these frames was increased 5%, from 8,400 to 8,820 rpm.

Power consumption decreased 13.74% when standard spindles were replaced by roller-bearing spindles. The test was made by taking the ampere readings on three frames of old spindles and three frames of roller-bearing spindles with the rolls disconnected and only the cylinder and spindles running.

The running life of the tapered paper bobbins is estimated as two-thirds of the life of wooden bobbins. Most paper bobbins are discarded because of being bent so that they will not go on the spindle rather than because of being worn out.

WILD YARN. Wild yarn accounts for 16% of the total warp and filling breaks at the loom, one mill estimated. A breakdown of wild yarn into three types showed that 9.63% of the total yarn breaks was due to loose lint, 3.59% to tail ends of yarn, and 2.78% to wild yarn or lint spun into the yarn.

Tests at another mill indicate that 31.99% of the total loom stops are due to these three types of uncontrolled yarn and lint.

Methods cited for controlling wild yarn and lint consist mainly in cleanliness and careful handling of loose ends.

One mill reported that it keeps a close check on the knotter of its Barber-Colman spooler to guard against wild yarn. Another point closely

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Loom Stops Due to Wild Yarn and Lint

(Tests made by one mill)

Loom hours tested		3,285
Average fabric count (single-ply warp)		74 x 32
Average warp No.		11.58
Average filling No.		6.68
Average fabric count (plied warp)		46 x 32
Average warp No.		4.75
Average filling No.		4.78
Loom stops (all causes)		4,042
Stops per hour due to:		
Wild yarn	0.056, or	2.70%
Spun-in yarn and lint	0.124, or	10.09%
Loose lint	0.236, or	19.20%
Percent of total loom stops		31.99%

Spindle Assignment per Mechanical Roll Picker

Mill No.	Spindles per job	Remarks
1	4,320 and 4,536	Pick 4 frames of bottom rolls and 14 frames of top rolls each 24 hr.
2	3,168	Do all cleaning except running out sides.
3	2,400	Pick all rolls each 8 hr.
4	4,536	Pick rolls once each 24 hr.
5	2,700	Pick all rolls every 48 hr. and clean 13 frames of back top clearers each 8 hr.
6	2,400	Pick all rolls each 24 hr.
7	3,700	Pick all rolls twice a week.
8	3,584	Pick all rolls and clearers each 48 hr.

watched is the condenser comb of the Barber-Colman warper. When wild yarn or lint is caught by the comb, the operator stops the warper and picks off the wild yarn or lint.

Spun-in yarn is controlled by close settings of the spooler snick plates.

Loose lint is controlled by adequate cleaning in the spinning room.

Overhead cleaners are used in this mill. Frames are blown off every 24 hr., and the overhead is blown down once a week with the frames stopped.

Other mills stressed the importance of these points:

1. Keep creels, thread boards, and rails of roving and spinning frames clean.

2. Start spinning frames at the bottom of the bobbin after the frame has been doffed.

3. Use separators on spinning frames and insist on adequate patrolling of the frames by spinners.

4. Have spinners twist up ends and creel roving without too much lapping of the ends.

5. Keep spooler yarn shears working properly.

6. Keep spooler suction tubes operating.

7. Have spooler tenders pull off yarn tails and any loose yarn they find on the bobbin, thread clamps, etc.

8. Keep the floor around the warper and warper creel highly polished so that loose lint and yarn will be pushed away by the draft caused by the warper running.

A guide list used by Textron Southern, Cordova, for preventing wild-yarn defects is shown on page 137.

CHEESE CAUSES TAILS. An important source of wild yarn pointed out by one mill is a spooler cheese kicking up when a bobbin of yarn runs out. The cheese keeps running for some time, and short pieces of yarn are whipped off from the wound-yarn end. These pieces often catch on running yarn and are wound on cheeses.

No solution for this problem was given.

Scheduled doffing of spinning frames (a system whereby frames are doffed according to a written time schedule) is favored enthusiastically by mills that have adopted it.

Mt. Vernon-Woodberry Mills, Tallassee, reported that it has found no significant disadvantages to the system but has found several definite advantages. On yarn numbers ranging from 2s to 22s, spinning doffers know just how many frame sides they will doff. There are fewer doffer complaints and fewer short doffs. Another advantage is that a check of the time schedule posted on each frame will indicate how much of each number of yarn will be available at any given time.

Each morning the doffing schedule for the day's three shifts is written up. Each shift's schedule is ended 5 min. before the end of the shift. Doffers are assigned 45, 52, or 60 frames, depending on the yarn number, style, and ring size of the frames. The assignment is made by yarn numbers rather than by frames. A doffer may doff a certain group of frames one day and another group the next day.

Frames are short doffed if a breakdown occurs, and in some cases it is necessary to cut a frame 5 or 8 min. before it is full in order to stay on schedule.

NO "HOME RUNS." An increase in production at Langdale Mill, West Point Mfg. Co., was obtained by scheduled doffing, it was reported. The schedule at this mill is arranged to the nearest half hour. Doffers are not allowed to knock a frame off before its scheduled time for doffing.

The results are that "home runs" have been eliminated, frames stand a minimum of time waiting to be doffed, and there are fewer short doffs.

No particular disadvantages have been found at Langdale.

A production increase of about 3% has been gained at Pepperell Mfg. Co., Opelika, by scheduled doffing. Schedules are arranged so that doffers have a small amount of rest each hour. No spinner has over one frame on her job doffing at one time. Since doffers are paid by the frame, there is no difficulty in checking the work done for payroll purposes.

Other advantages reported by different mills included:

1. More uniform spinning-bobbin weights.

2. Doffing is done continuously rather than spasmodically.

3. Better spooler production.

AIR-CHANGING. Opinion was split on the advantage of increasing relative humidity in the spinning room when an air-changing system is installed. Five mills that have installed air changing also increased humidity, and four did not. It was generally agreed that air changing gives better control of humidity and temperature and makes spinning-room conditions more comfortable for the workers.

Briefly, the reports of the nine mills were:

No. 1: We did not increase our relative humidity. We think 54% is best.

No. 2: We increased relative humidity 5 to 15%. In cold weather we run with 55% r.h.; in hot, dry weather with up to 70% r.h.

No. 3: We increased relative humidity from 53% to 60 and 65%.

No. 4: We did not increase relative humidity, but air changing gave us better control and a more constant humidity. We run 65 to 70% r.h. on filling numbers ranging from 3.50s to 20s.

Mill No. 5: We did not increase relative humidity. We get best results with 54% r.h.

Mill No. 6: We did not increase relative humidity. We run with 55 to 58% r.h.

Mill No. 7: We increased relative humidity from a doubtful 50% to a certain 55 to 60%.

Mill No. 8: We did not increase relative humidity, but on really hot days we raise it a little to keep down heat in the room.

Mill No. 9: We increased from 55% r.h. to 65%. We have no dry or wet pockets in the room now.

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with

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Production capability of the modern plant is directly related to arrangement of machinery and equipment. Rearrangement may be necessary to take full advantage of an improved process or to permit economical manufacture of a new product.

PLUG-IN DUCT can be installed with a minimum of delay and expense near ceilings, along walls, or directly above machinery to provide power where it is needed. It replaces the more conventional panelboards, which have conduit-enclosed feeders, typical of less modern installations.

***Write** for Bulletin 5600. Address Square D Company, 6060 Rivard Street, Detroit 11, Mich. Or call your nearby Square D Field Engineer for help in laying out your duct system.*

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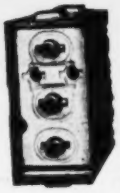
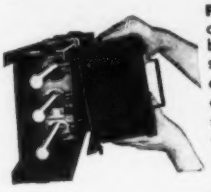
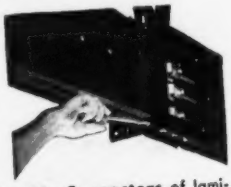


Round Copper Bus Bars provide greater mechanical strength and resistance to short-circuit stresses. Supports are non-carbonizing porcelain.



Plug-in Units of either circuit breaker or fusible switch types are easily installed at 2-foot intervals along both sides of the duct. Plug-in stabs grip the round bus bars with exceptionally high pressure. A hook-type bracket permits rotation of the unit into place. A single clamp screw at bottom holds it there.



Hanger Brackets of heavy gauge steel are two-piece construction to facilitate assembly around duct enclosure. They are suitable for either edgewise or flat mounting of duct structure.

Flexible Connectors of laminated copper join bus bars between sections to provide for expansion and contraction, permit proper alignment and insure tight joints. All bolt heads face outward.

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REWORKED WOOLENS Are Better If Stripped Before Dyeing

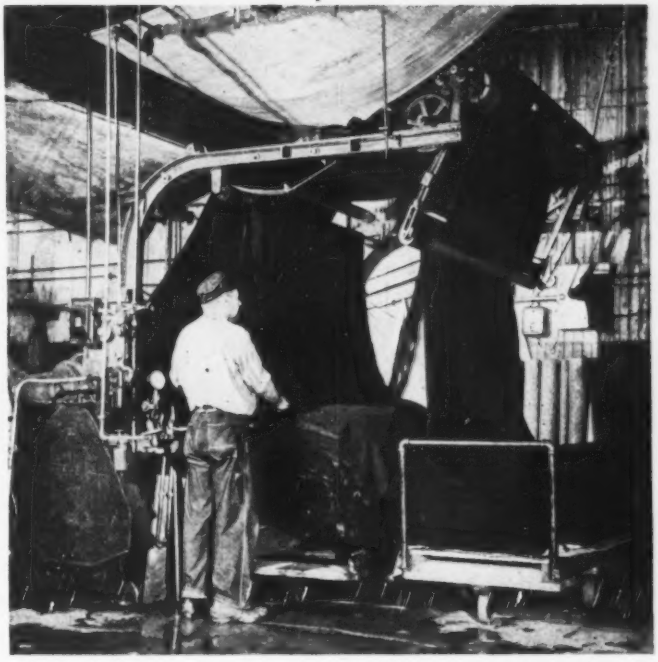
HIGHLIGHTS: *Heavy woolen cloths involving reused wool usually finished in dark shades—Wide group of wool colors to choose from for the blues, browns, greens, and blacks used on melton-type fabrics—If there is cotton in mixture, direct cotton dyes must be used, separately or in a union bath.*

By K. E. MARSDEN
Leeds, England

HEAVY WOOLEN CLOTHS such as melton, pilot, beaver, and tweed types, are normally made with substantial additions of reprocessed and reused fibers; and their ground shade is seldom white. They are usually dyed in various shades of navy blue, with a sprinkling of browns, maroons, dark greens, and blacks. Lighter shades, such as royal blue, tan, and gray, are occasionally in demand; and these shades usually require a preliminary stripping of the ground shade.

In addition to stripping the dark-shade grounds, as above mentioned, it is also necessary to strip on occasions to remove all traces of mixture which may show up in brown, green, or maroon shades as the result of a color-mixture ground. Furthermore, as cotton is often found in the remanufactured fibers used in making these cloths, it is essential to follow normal dyeing process work with either burl dyeing, using myrobalans and nitrate of iron, or cold cotton staining with direct cotton dyes. Occasionally, the one-bath union-dye method is used.

On account of the colored ground shade of the material, dyes must be used for production of navy shades which yield good bloomy tones. Acid Violets and Acid Cyanine BF types can be used for this purpose, but faster results are obtainable by use of the Sulphon Acid Blue and Sulphon Cyanine types. Darkening, if necessary, can be performed by using Orange II, Indian Yellow, Orange IV, or Azo Flavine FFN types. Similarly, shading of the Sulphon Acid or Sulphon Cyanine types can be done using dyes of the Acid Black HA type.



CAREFUL FINISHING is great aid to quality in piece-dyed woolens containing reworked wool.

The Acid Violets, Acid Cyanines, etc. are dyed from a sulphuric-acid/glauber-salt bath; Sulphon Acid Blue from a phosphoric-acid/glauber-salt bath; Sulphon Cyanine, with glauber salt only, or plus ammonium sulphate or acetate.

Colors are dyed according to fastness requirements. Browns, for instance, are dyed with Tartrazine, Azo Rhodine, and Alizarine Light Blue FPS types. In place of Tartrazine, Amido Yellow E type is often used. Faster results are obtainable with Xylene Light Yellow 2G, Erio Fast Floxine BL, Alizarine Light Blue RG types. All these are dyed from a sulphuric- or formic-acid/glauber-salt bath. Alternatively, where a preliminary strip is required, and where the chrome strip is employed, excellent results are obtainable by dyeing with a chrome brown.

Similarly, with maroons, chrome reds can be dyed after a chrome strip; with greens, Solway Green GS and Erio Chrome Flavine A types; etc. Otherwise, a combination of Azo Rhodine and Azo Rubinole 6B types, or Carmoisine, suffices for straight acid dyeing. With greens, Xylene Fast Green B, or a combination of Xylene Light Yellow 2G (or tartrazine) and Alizarine Light Blue FPS.

In all instances, at least 1 hr. should be taken in bringing the dye liquor to the boil; boiling is continued for 20 to 30 min. before sampling takes place.

GOOD PENETRATION. Taking into account the heavy weight of the cloths under consideration, usually between 24 and 32 oz. per yd., due attention must be given to penetration. In this connection, the use of a suitable penetrating agent is to be recommended (pyridine types, for example).

During the course of matching in the acid- or chrome-dyeing process, it is necessary to allow room for subsequent burl dyeing or cold cotton staining. As burl dye tends to darken

(*Continued on page 228*)

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and stay to size.....

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They've always been enemies—Baby Woolens and the Wash Tub! But, soon, mothers everywhere will know that quality baby woolens need no longer fear soap and water—no more than baby himself! She can now WASH those woolens—yes rub them and tub them—to get them truly clean . . . she can forget her fears of shrinkage, of matting or felting. They'll come out of the tub as fresh and clean and fluffy and new-looking as the day they were bought . . .

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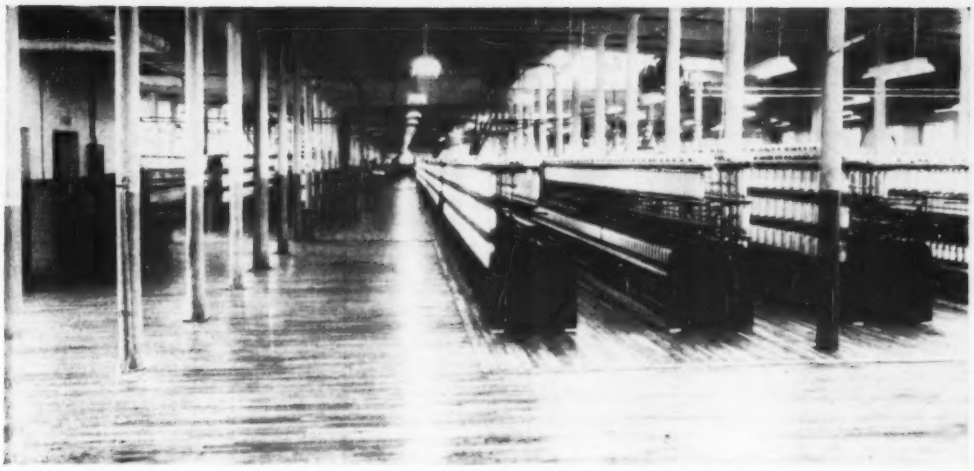

SANDED AND SEALED FLOORS are easier to keep clean, prevent damage to materials dropped on them, and stimulate better care by workers.

MILL SANITATION

More Than Pays Its Way

HIGHLIGHTS: *Sanitation is the first step in preventing sickness and accidents—Programs in 1,600 plants have reduced accident frequency 44.9%; labor turnover, 27.3%—Cleaning agents that won't burn should be used to scrub machinery parts.*

By HORACE LECHE
West Disinfecting Co.

INDUSTRIAL PHYSICIANS, safety engineers, and personnel managers all agree that a program of health, safety, and sanitation is of paramount importance to help protect health and welfare of employees. A survey by the National Association of Manufacturers of more than 1,600 leading manufacturing plants has shown that such a program has accomplished a reduction of 62.8% in occupational disease, 44.9% in accident frequency, 29.7% in absenteeism, 28.8% in compensation-insurance premiums, and 27.3% in labor turnover.

It is not too much for an employee to expect that washrooms in the mill where he works will be as clean and sanitary as those in his own home. It has been found that clean rest rooms will receive careful treatment; it has also been found that as soon as maintenance is relaxed these rest rooms will be abused by a handful of indiscreet persons, with the result that washrooms ultimately become obnoxious and offensive to all the other employees. This condition, naturally, tends toward reducing mill efficiency, with resulting increased costs of production.

One of the primary requisites for a clean washroom is a good cleaning agent. Proper washroom maintenance also requires a good disinfectant and deodorant.

WASHROOM. For general washroom use, a coal-tar disinfectant is satisfactory. It is a complete disinfectant, killing all types of germs; whereas a pine disinfectant is limited to killing only certain germs. For mopping the floor, a solution of 1 oz. of the coal-tar disinfectant to 1 gal. of water is effective. The solution not only disinfects, but it also serves as a cleaner and deodorant. The frequency of application depends, of course, on how quickly the washroom floor gets dirty.

Dermatitis is a common occupational hazard. Many mills have found it necessary to give particular attention to the skin in selecting and using dyestuffs, and the same care should be observed in selecting a hand cleaner to make available to the employees who use the washroom of any mill. It is often less expensive to provide a good hand cleaner than to have employees lose time on account of irritated skin. Rough and chapped hands are not able to handle fine yarns and are not efficient at handling coarse yarns.

Other aids for proper washroom sanitation include automatic drip machines for controlling offensive odors, paper towels and adequate receptacles for their disposal, and sanitary-napkin vending machines.

DRIP MACHINE. The automatic drip machine consists of a container of deodorizing liquid screwed or glued to the wall above a toilet and a drip pipe through which the liquid is dispensed

CHEMICAL USERS' GUIDE To General Chemical Products for the Textile Industry

PRODUCT	AVAILABLE FORMS	COMMERCIAL STRENGTH (MIN.)	SHIPPING CONTAINERS	APPLICATIONS
Glauber's Salt, Crystal $Na_2SO_4 \cdot 10H_2O$ *(Sodium Sulfate)*	Colorless Crystals	96% $Na_2SO_4 \cdot 10H_2O$ 42.3% Na_2SO_4	Bags	Dyeing assistant.
Glauber's Salt, Anhydrous Na_2SO_4 *(Sodium Sulfate)*	White Granules	99.5% Na_2SO_4	Bags	Same as crystal but stronger product.
Sulfuric Acid H_2SO_4	Liquid	66° Be 93.19% H_2SO_4	Carboys Steel Drums Tank Trucks Tank Cars	Carbonizing wool; dyeing; desizing cotton; souring; rayon spinning bath.
Acetic Acid CH_3COOH + water	Colorless Liquid	Various	Carboys Barrels Tank Cars	Dye bath; souring agent; imparting scroop to cotton and silk.
Aqua Ammonia NH_4OH + water *(Ammonia)*	Colorless Liquid	26° Be 29.4% NH_3	Carboys Steel Drums	Wool scouring; dyeing.
Hydrochloric Acid HCl + Water *(Muriatic Acid)*	Liquid	20° Be 31.45% HCl	Carboys Tank Cars Tank Trucks	Souring; removing hypochlorite bleach; dyeing.
Tetrasodium Pyrophosphate, Anhydrous $Na_4P_2O_7$ *(TSPP) (Pyro)*	White Powder	98% $Na_4P_2O_7$ (Equiv. 52% P_2O_5)	Bags	Stabilizing peroxide bleaches; water treatment and dispersing agent; detergent.
Sodium Metasilicate $Na_2SiO_3 \cdot 5H_2O$	White Granules	29.0% Na_2O	Bags Fibre Drums	Kier boiling as detergent.
Sodium Sulfide Na_2S + water	Red Chips or Solid Mass	60% Na_2S	Steel Drums	Dyeing with sulfur dyes; depilatory for wool pulling; desulfuring rayon.
Sodium Sulfite, Anhydrous Na_2SO_3 *(Sulfite)*	White Powder	98.5% Na_2SO_3	Bags Fibre Drums	Rayon manufacturing.
Sodium Bisulfite, Anhydrous $Na_2S_2O_5$ *(ABS) (Sodium Metabisulfite)*	White Powder	97.5% $Na_2S_2O_5$ (Equiv. 65.5% SO_2)	Fibre Drums	Bleaching wool; anti-chlor after bleaching with hypochlorite; rayon manufacturing.
Oxalic Acid $C_2H_2O_4 \cdot 2H_2O$	Colorless Crystals	99.5% $C_2H_2O_4 \cdot 2H_2O$	Fibre Drums	Bleaching; dyeing; for mordanting wool with chrome.
Ferric Sulfate $Fe_2(SO_4)_3$ + water *(Iron Copperas Nitrate)*	Liquid	47° Be 11% Fe	Carboys Barrels	Silk weighting; mordant.
Ferric Nitrate $Fe(NO_3)_3$ + water *(Iron True Nitrate)*	Liquid	43° Be 47° Be 10% Fe 11% Fe	Carboys Barrels	Silk weighting; mordant.

OTHER PRODUCTS: Disodium Phosphate; Nitre Cake; Sodium Silicate; Trisodium Phosphate; Sodium Hyposulfite; Aluminum Sulfate; Lead Acetate; Mixed Acid; Epsom Salt; Chrome Alum; Aluminum Chloride; Ammonia Alum; Potash Alum; Ammonium Sulfate.

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to the toilet. A series of wicks control the flow of liquid so that one drop goes into the toilet about every 3 min. The container needs refilling about once a month. Types of deodorants commonly used are of eucalyptus, pine, or wintergreen odor.

Size odors from slasher-room drains can be controlled by pouring some of the coal-tar disinfectant into the drain.

Keeping floors clean is an important part of textile-mill sanitation. Floors can always be made clean and sanitary by scrubbing them with a good cleaning compound. However, the job of keeping them clean can be made much easier by sanding them and sealing the surfaces with a penetrating sealer. Ordinarily, three coats of sealer should be applied.

The advantages of a sanded and sealed floor are obvious. They include:

1. Cleaning is easier to do and requires less time.
2. The floor looks better.
3. Cleaning materials such as cleaner, mops, and brushes last longer.
4. Waste cotton that gets on the floor is damaged less.
5. Workers will take better care of the floor.
6. Floors last longer.

MAINTENANCE COST. The best bakelite sealer that can be bought is the most economical, since the cost of the sealer is by no means the major cost. Preparation of the floor for receiving the sealer costs much more. After a mill has spent 4¢ or 5¢ per sq. ft. to prepare the floor for sealing, it is hardly advisable to save ¼¢ or ½¢ per sq. ft. by buying an inexpensive sealer.

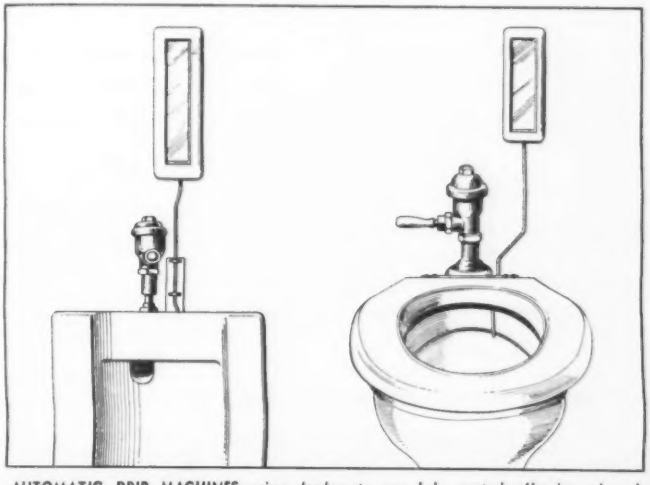
Frequency of cleaning the floor depends on the machinery installed on it and the work that is done in the area. In most processing areas, once a week is usually often enough. Some mills, however, find it desirable to clean certain areas on a schedule of once a day.

The best cleaning method is to use a scrubbing machine with a solution of water and a neutral cleaning agent. Mops can be used instead of a machine.

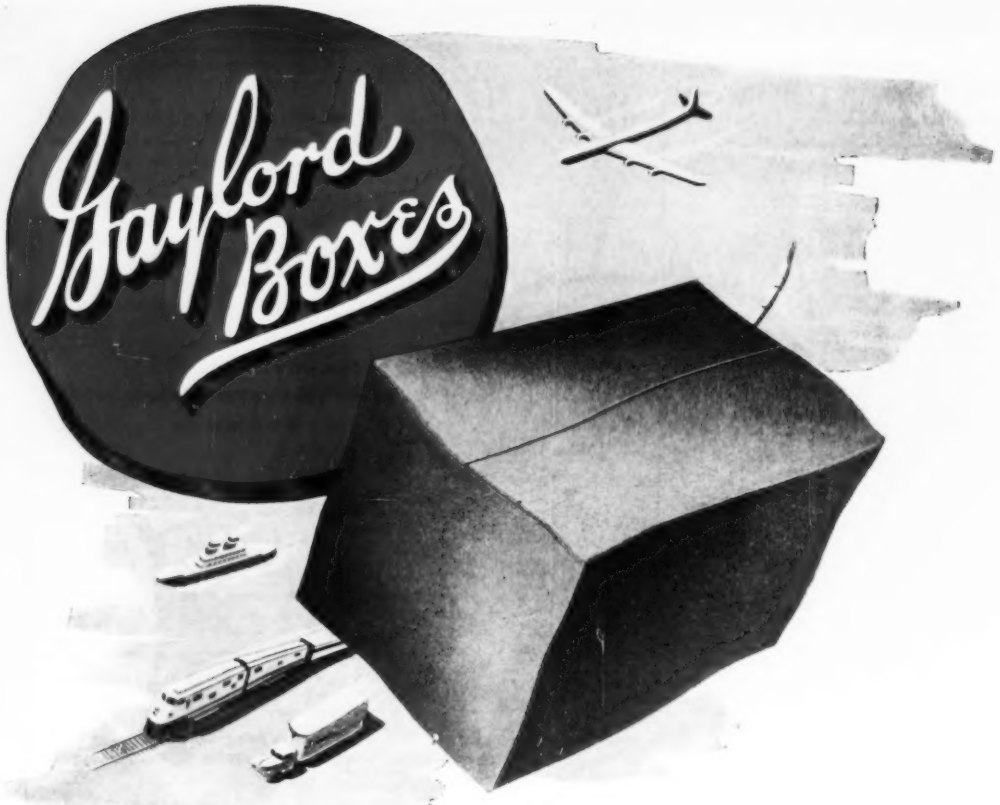
Mill sanitation and health measures extend to numerous machine-maintenance problems. Getting the oil and grease off machine parts (as during an overhaul job) or flushing out a machine part that runs in an oil bath (as a card-comb box or a spinning spindle) are applications where good degreasing agents can be of much help. A comb box can be cleaned and flushed in 10 to 15 min. without being removed from the card, and many degreasing jobs can be done without any possibility of fire by using a nonflammable degreaser alone or in solution with water.

Guide for Floor Maintenance

Type of surface	Maintenance method
Unpainted wood	1. Clean with a penetrating pine cleaner. 2. Seal with two or three coats of a liquid sealer composed of vegetable oils, gums, and solvents. 3. Finish with two coats of water-soluble, high-luster wax.
Linoleum	1. Clean with a linseed-oil-base cleaner. 2. Finish with two coats of water-soluble, high-luster wax.
Cement or concrete	1. Clean with a strong cleaner. 2. Seal with a waterproof, hard-usage sealer. 3. Finish with high-luster wax.
Painted or varnished surfaces	1. Clean with a linseed-oil-base cleaner. 2. Seal with a vegetable-oil-and-gum sealer. 3. Finish with two coats of high-luster wax.
Gymnasium floor	1. Sand the floor. 2. Clean with a strong cleaner and remove rubber burns with benzine or carbon tetrachloride. 3. Seal and finish with three or more coats of good varnish.
Wood in garage	1. Clean with a strong cleaner. 2. Seal and finish with two coats of good varnish.
Washroom tile	1. Clean, deodorize, and disinfect with a coal-tar disinfectant.



***AUTOMATIC DRIP MACHINES** using deodorants can help control offensive odors in washrooms.*



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***NEPS IN COTTON** were reduced 13% by by-passing the vertical opener in this opening line. The line consists of blending feeders, vertical opener, and two units composed of a No. 11 condenser and a No. 12 lattice opener each.*

Results of Continuous Card Stripping
Reported by one mill

No. of strippers..... 621
Staple length of cotton (in.)... 1 5/16 and 31/32
Carding rate (lb. per hr.)..... 11.13
Yarn numbers spun..... 4s to 17s

Grinding
Normal interval between grindings..... 1,200 hr.

Experimental intervals between grindings	Neps per sq. in. of web
0 (hr.)	42
120	47
360	55
600	59
1,008	69
1,200	(card regrooved)

Nep increase from 0 to 1,008 hr.—35%

Stripping
Cylinder—interval increased from 4 hr. to 480 hr.
Doffers—interval increased from 4 hr. to 24 hr.

How to IMPROVE CARDING
Discussed by Alabama Men

***HIGHLIGHTS:** Neps are influenced by cotton character and machine speeds, Alabama Textile Operating Executives report—Continuous card strippers save one mill $5,640 a year—Return-air condensers reduce dust in opening and picker rooms, but they must be installed properly and kept clean.*

CARDING AND SPINNING PRACTICES followed by many Alabama mills were discussed at the fall meeting of the Alabama Textile Operating Executives, held in Birmingham. Before the meeting, questions were submitted by mills; and six questions on carding and six on spinning were selected for discussion at the meeting.

The carding panel was lead by Vic Nelson, superintendent, Avondale Mills, Alexander City. Information given during the discussion was condensed for publication here. A similar report on the spinning panel is on page 137.

THE INFLUENCE of the vertical opener in causing neps in carded cotton stock is not definitely known, according to answers given by mill men at the fall meeting of the Alabama Textile Operating Executives. The question under discussion was whether or not removing the vertical opener from the opening line or replacing it with another type of cleaner would reduce neps.

One or two mills reported that removing the vertical opener had reduced neps, but several mills indicated that they had obtained no certain results.

Lanett Mill, West Point Mfg. Co., reported that it replaced the vertical opener with a Saco-Lowell No. 12 lattice opener followed by a No. 11 condenser and a Centrif-air machine. Production on the vertical opener was 1,800 lb. per hr., which was reduced to 600 lb. per hr. on each of the new No. 12-No. 11-Centrif-air machine units. Neps and curling of the stock that resulted from processing at the high speed of the vertical opener were reduced when the new lower-speed units were installed.

Maturity and fineness of the cotton, it was pointed out, have an important influence on neps.

Carding at this mill is at the rate of 14½ lb. per hr.; cotton is 1⅛-in. staple.

NEPS REDUCED 13%. A 13% reduction in neps was observed by Pepperell Mfg. Co., Opelika, when stock was processed without the vertical opener. The standard opening equipment at this mill includes blending feeders, vertical opener, a No. 11 condenser (with a No. 6 air filter), a No. 12 lattice opener, a second No. 11 condenser, and a second No. 12 lattice opener.

Nep counts were taken during a three-day period on 65 cards running stock opened on the standard opening line. Then nep counts were taken for three days on the same cards running stock opened on the same line with the vertical opener by-passed. The 13% reduction in neps was noticed during the second three-day period.

Production of the cleaning line is 900 lb. per hr.

Fewer neps and less curling were obtained by Avondale Mills, Sylacauga, by decreasing the speed of the vertical opener from 850 rpm. to 600 to 700 rpm. Cleaning was not reduced and production remained at 600 lb. per hr.

One of the important factors that contributes to high or low nep counts is the speed of carding, Mount Vernon-Woodberry Mills reported. A card production of 8 or 10 lb. per hr. will produce a web with fewer neps than a production of 16 lb. per hr.

This mill uses two opening set-ups, one with a vertical opener, the other without. The opening room that does not have vertical openers is smaller than the other and opens stock for a smaller mill equipped with later-model cards. Maintenance on the machinery may also be some better, it was said. Fewer neps are produced in the smaller mill, but Mount Vernon-

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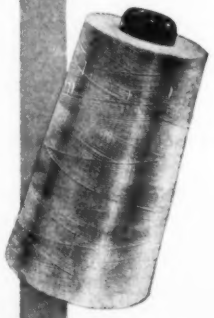

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EXECUTIVE COMMITTEE MEMBERS elected at the fall meeting of the Alabama Textile Operating Executives were: H. M. Johnson, Buck Creek Cotton Mills, Siluria; Wilson Patterson, superintendent, Mount Vernon-Woodberry Mills, Inc., Tallassee; and Vic Nelson, superintendent, Avondale Mills, Alexander City.

Woodberry has not been able to prove that the difference is due to the presence or absence of the vertical opener.

Mount Vernon-Woodberry has found that nep-count variation runs higher than 13% during a day. It is therefore difficult to determine with certainty any answer as to the reduction of neps.

CAUSES OF NEPS. To sum up the answers on the question on neps, it seems that three factors (all of them more important than the vertical opener itself) contribute to neppiness:

1. The character of the cotton.
2. The speed of the opening machines.
3. The carding rate per hour.

The second question discussed at the meeting asked for experience with continuous card strippers.

Mount Vernon-Woodberry Mills has 445 continuous strippers that have been in service several years. If they are maintained properly, the mill reported, they give satisfactory service.

The mill uses 1-in. cotton, cards 16 lb. per hr., and spins yarn numbers ranging from 2s to 20s.

The interval between grinding periods has been lengthened 77%—from 9 days (216 hr.) to 16 days (384 hr.); the grinding time has been reduced 166%—from 8 hr. to 3 hr. The interval between stripping the card cylinders has been lengthened from 4 hr. to 144 hr. and doffers from 4 to 24 hr. After each grinding, the comb to the doffer, doffer to the cylinder, and continuous stripper to the cylinder are set. Other points are set every two months.

No effect on yarn breaking strength has been noted. Card fly has decreased 0.26% and flat strips have increased 0.46%.

$5,640 SAVED. Approximately $5,640 a year is being saved on labor at Huntsville Mfg. Co., Huntsville, as a result of the use of continuous strippers, it was reported. The strippers have been in use about two years. Other advantages pointed out are a more even card sliver and a 40% saving on strip waste.

This mill uses 1 1/32-in.-staple cotton, cards 11.52 lb. per hr., and spins 31s warp and 42s filling.

The grinding schedule of once every 240 hr. of operation was not changed because of the quality demands of the product. The interval between strippings, however, was lengthened 50% on doffers and 66% on cylinders. No effect on yarn breaking strength has been noticed. Fly waste increased and flat strips decreased, but the total remained about the same, as shown in this comparison:

	With stripper	Without stripper
Fly (%)	1.35	0.94
Strips (%)	1.71	2.13
Total	3.06%	3.07

One mill reported that after the strippers get old, new needle bars must be put in about every 6 or 8 months, at a cost of $20 per stripper. Other maintenance cost is small.

LAPS HAULED MECHANICALLY. A lap-handling system that employs 1,350 ft. of track and services 201 cards arranged in three lines is in use at Avondale Mills, Alexander City, it was reported. A 3-hp. motor drives the conveyor system at the rate of 18 ft. per min. As the lap passes a card where it is needed, the card tender takes it off the track and places it on the card.

The mill runs two mixes of cotton. The laps are marked on the end so that a card tender can readily identify the mix to which the lap belongs. Laps doffed from ten pickers are weighed and hung in a holder suspended from the track. When the track is filled to its capacity of 160 laps, doffed laps are set on the floor until there is room for them on the track.

The work of two men per shift is saved by the lap-handling system.

Return-air systems in opening rooms and picker rooms generally reduce the amount of dust in the rooms and eliminate the fire hazard of a dust room, according to reports made by several mills. Another advantage pointed out is that less heat is lost in winter because the warm air is cleaned and blown into the room again.

One mill reported that the use of the air filters has practically eliminated dust in its opening room but has created the job of keeping the waste bags cleaned. If the bags are not

(*Continued on page 230*)

Roving-Frame Maintenance Schedule
(Avondale Mills, Pell City, Ala.)

First and second shifts change one frame of rolls each week. Clean and rebuff rolls taken out.

Scrub steel rolls every 6 mo.

Overhaul all frames once a year. (Align, level, mop out bolsters, take spindles out and blow out steps, replace all worn studs, gears, etc.)

Oil

Daily—head bearings.

Three times a week—front bottom rolls.

Weekly—lifting shaft, spindle tops, top rolls, bottom rolls, bobbin gears.

Roving-Frame Overhauling Schedule
(Eagle & Phenix Mills, Columbus, Ga.)

Step No. 1

1. Have frames doffed.
2. Remove drive belt.
3. Remove top rolls.
4. Remove draft gearing and studs.
5. Remove draft-gear head end and gear cap.
6. Lay out steel rolls.
7. Remove bottom clearers.
8. Check all gears, studs, rolls, and stands.
9. Replace rolls in stands and check settings.
10. Check and replace clearers.
11. Align and level frame.
12. Rebuild draft-gear head.
13. Check traverse motion and gears.
14. Check creel, lifting roll, and gears.

Step No. 2

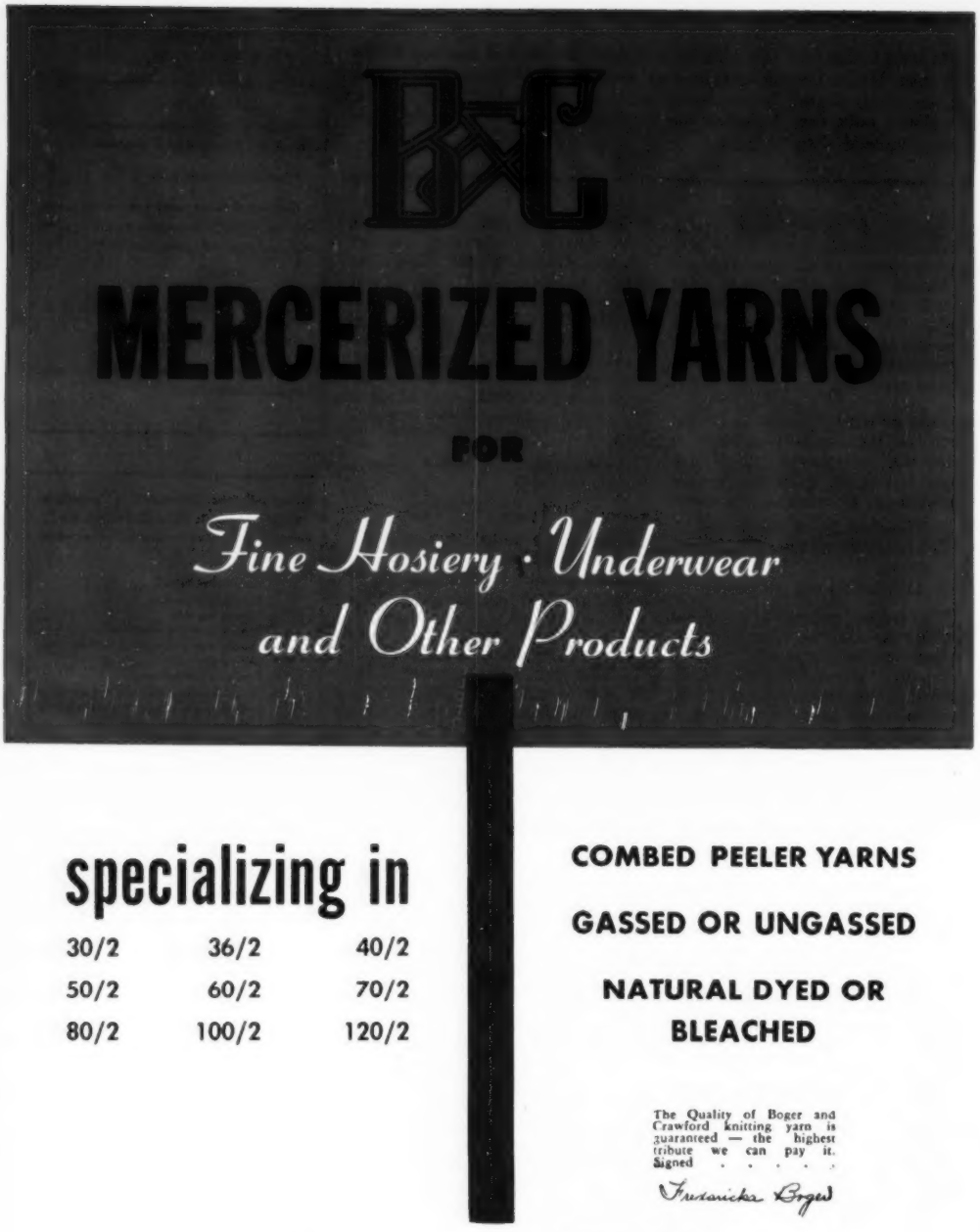
1. Take off and clean flyers. Check finger pressure.
2. Take out and clean spindles.
3. Clean and check bobbin and spindle shafts.
4. Check bobbin- and spindle-shaft gears and bearings.
5. Mop out bolsters.
6. Check horse-head gear and bearing.
7. Clean and check spindle steps.
8. Replace and plumb spindles.
9. Align and level carriage.
10. Place spindle and bobbin gears on spindles.
11. Set spindle and bobbin gears.
12. Put grease in bearings.
13. Check lifting shaft, rockers, rolls, and bearings.

Step No. 3

Check:

1. Pulleys.
2. Out-rigging bearings.
3. Jack shaft and bearing.
4. Compound.
5. Bobbin and spindle chain drive.
6. Twist-gear train.
7. Top cone and gear.
8. Bottom cone and gear.
9. Lay gear train.
10. Rocker gear and cone belt.
11. Builder dog, jaws, and screw.

Note: Record the parts used. Also record the condition of major parts not replaced.



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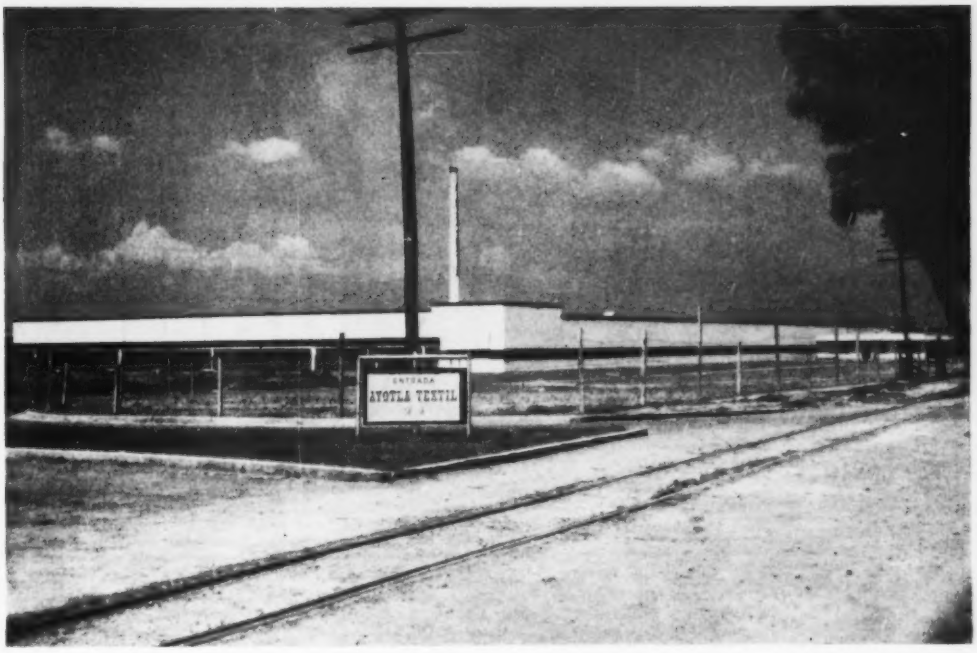
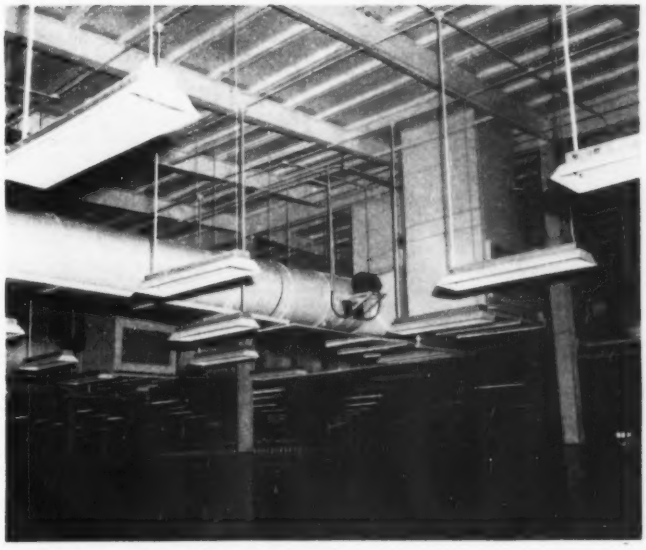


Mexico Builds Modern COTTON MILL



HUMIDITY is maintained throughout the mill by 41 Humiducts and automatic controls.

HIGHLIGHTS: *Oldest textile company in hemisphere erects combed-yarn unit—American equipment used throughout—All departments humidified.*

By HARRY SCHADEN

THE NEW TEXTILE MILL of Ayotla Textil, S. A., located in Ayotla, Mexico, 14 miles south of Mexico City on the Pan-American Highway is a classic example of the results that can be attained through cooperative efforts of Mexican and United States industry.

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DOW

is a unit of the oldest textile company in the Western Hemisphere, Organizacion Atoyac Textil, now headed by Jose de la Mora, of Mexico City. The original Atoyac plant, Molino de Anmedia, is said to have been founded 300 years before the Slater mill in Pawtucket, R. I., generally regarded as the first built in the United States.

The new mill, designed and constructed by Robert & Co., Inc., Atlanta, Ga., is a one-story structure, 160x970 ft. with an 80x107-ft. supply room and shop, a cotton warehouse 65x100, and an 80x80 office. It has a structural-steel frame, stuccoed brick walls, and precast-concrete roof slabs. The insulated roof is the built-up type, being finished with tar and gravel. The plant has a concrete floor and strip windows with steel sash.

Designed for the production of combed yarns to be manufactured into combed-yarn fabrics, such as broadcloth, the Ayotla mill has 25,000 spindles and 500 looms. Carding and spinning machines were provided by Saco-Lowell, winders by Universal, looms by Draper, and cloth-room machinery by Parks & Woolson Machine Co.

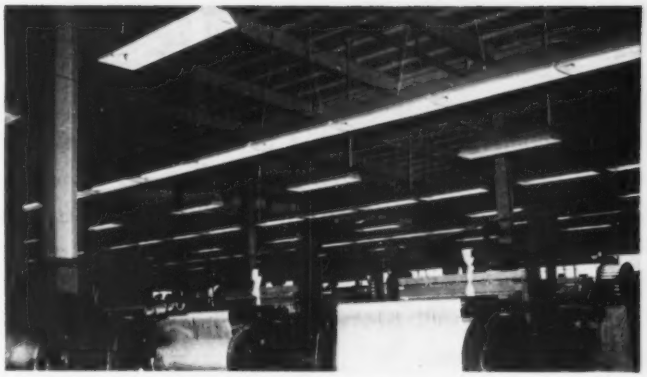
In order to compete in the international textile field, the plant is employing the most modern methods of controlling processing. The two slashers, built by West Point Foundry & Machinery Co., West Point, Ga., are equipped with Brown Instrument Co. Moist-O-Graphs, which control yarn moisture content, size level, size temperature, and cylinder temperature.

Locating this plant in a relatively dry atmosphere at 7,500 ft. elevation required an evaporative capacity in the air-conditioning system of 1,500 gal. of water per hour at design conditions of 85° F. dry bulb, 60° F. wet bulb, and 20% r.h. The system consists of 41 Bahnson Humiducts, operated automatically by Minneapolis-Honeywell control equipment.

Humiduct units are located in each department—opening and picking, waste, carding, roving, spinning, winding, warping, slashing, weaving, and cloth room—to maintain the desired relative humidities for the various proceses as well as to provide controlled ventilation, evaporative cooling, and heating.

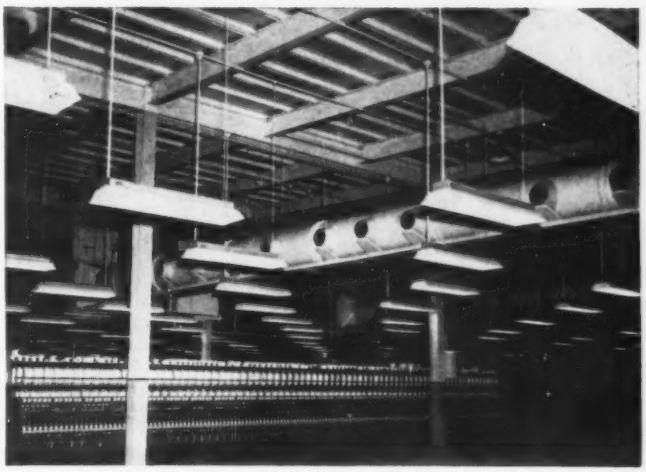
Every piece of machinery has its own motor, supplied by General Electric. A public utility supplies power, and a plant-operated boiler room provides steam for the slashers.

Ayotla Textil is planning to erect a housing project for workers. This also will be patterned after the most widely accepted community designs with recreational facilities and all modern conveniences.



LIGHTING is by alternate rows of continuous troffers over weavers' alleys and single luminaires over back of alternate looms.

WEAVE ROOM has 500 X-2 looms, modern humidification equipment.



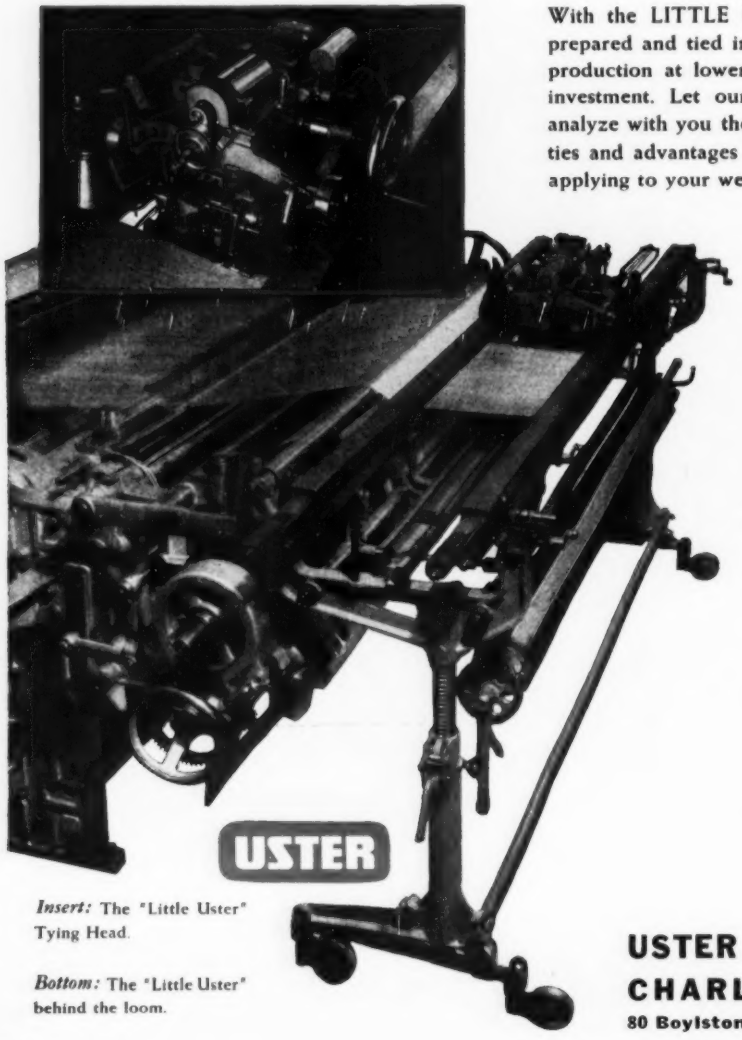
ROOF is structural steel with precast concrete slabs.

120,000 Ends Tied in Eight Hours

A lot of ends when tying portable—but just a regular day's work for a LITTLE USTER operating in a southern mill. Yes, the conditions in this mill are favorable. Well prepared filament yarn warps of approximately 14,000 ends are being tied. The operator is well trained and skilled in using the machine.

An equivalent speed cannot be expected nor attained in every mill. Tying speed is dependent directly on material and operating conditions. However, whether tying the finest silks to the coarsest woolen yarns with the LITTLE USTER, the entire warp tying process is accelerated and simplified to the maximum degree.

With the LITTLE USTER, more warps are prepared and tied in less time, meaning more production at lower costs and with a lower investment. Let our experienced technicians analyze with you the money making possibilities and advantages of the LITTLE USTER as applying to your weaving mill.



Insert: The "Little Uster" Tying Head.

Bottom: The "Little Uster" behind the loom.

- Entire warp tied in one single "bite".
- Warp prepared for tying in one single continuous operation.
- New warp prepared on one loom while LITTLE USTER is tying on another.
- Adjustable in less than two minutes for tying any material.
- Ties a leased sheet to an unleased sheet, or ties with or without lease.
- Ties on loom (portable) or away from loom (stationary) with equal efficiency.

USTER CORPORATION
CHARLOTTE 6, N. C.
80 Boylston Street, Boston 16, Mass.

Table I
Evaluation of Fabrics of Different Fiber Types

Properties	Spun Nylon O. D. 7 Chafer Duck	Filament, High-Tenacity, Viscose-Rayon O. D. 7 Chafer Duck	Specification Cotton O. D. 7 Chafer Duck
Ultimate elongation (%)			
Warp	31	32	22
Filling	34	30	17
Breaking strength (1-in. ravel strip, lb.)			
Warp	355	280	225
Filling	325	248	213
Impact durability (No. blows sustained) 12-in. drop	500 (*)	40	5
Yarn crimp (%) (*)			
Warp	13.9	10.9	18.1
Filling	15.0	9.4	13.1
Weight (oz. sq.yd.)	19.0	12.2	18.4
Texture (ends/in.)			
Warp	17	37	26
Filling	20	31	23
Yarn count (cotton system)			
Warp	6/4	4/1	8/4
Filling	8/4	4/1	8/4

(*) Tests stopped at this figure. Cover still intact.
(*) All determinations of yarn crimp conducted in accordance with ASTM General Test Method D-39-39.

***SPUN NYLON** fabric showed outstanding impact durability over rayon and cotton fabrics.*

Table II
Comparison of 18-oz. Chafer Duck Varied in Percentage of Yarn Crimp

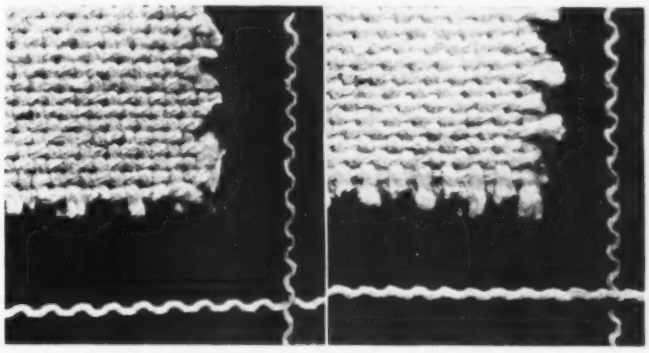
Properties	Specification Gray Cotton Chafer Duck	Crimp-Controlled Gray Cotton Chafer Duck			
		Degrees of Crimp Control			
		1	2	3	4 (max.)
Yarn crimp (%)					
Warp	24.4	21.8	18.1	15.6	10.2
Filling	7.8	10.9	12.0	12.7	14.7
Ultimate elongation (%)					
Warp	31	25	21	20	16
Filling	13	13	15	16	19
Impact durability, 12-in. drop (No. blows sustained)	5	13	31	99	246
Range of values	4-6	6-25	18-50	68-120	180-317
Breaking strength (1-in. ravel strip)					
Warp	206	210	224	221	233
Filling	215	245	244	238	250
Weight (oz. sq.yd.)	18.7	19.3	20.1	18.8	18.4
Texture (ends/in.)					
Warp	24	23	23	23	23
Filling	24	25	25	25	25
Yarn number (cotton system)					
Warp	8/4	8/4	8/4	8/4	8/4
Filling	8/4	8/4	8/4	8/4	8/4

***IMPACT DURABILITY** of the army-cot covers improved as filling crimp was increased.*

Weaving Changes Improve IMPACT RESISTANCE

***HIGHLIGHTS:** Additional filling crimp increases impact durability—Filling breaking strength and fabric tearing strengths eliminated as significant factors in impact resistance of cot covers—Spun nylon most superior, but controlled-crimp cotton more practical and entirely suitable.*

Extracted from Textile Series Report No. 49, "Improvement of Cot Covers," by John C. Edwards, Office of Quartermaster General, Military Planning Div., Research and Development Branch. Issued by Office of Technical Services, U. S. Dept. of Commerce.



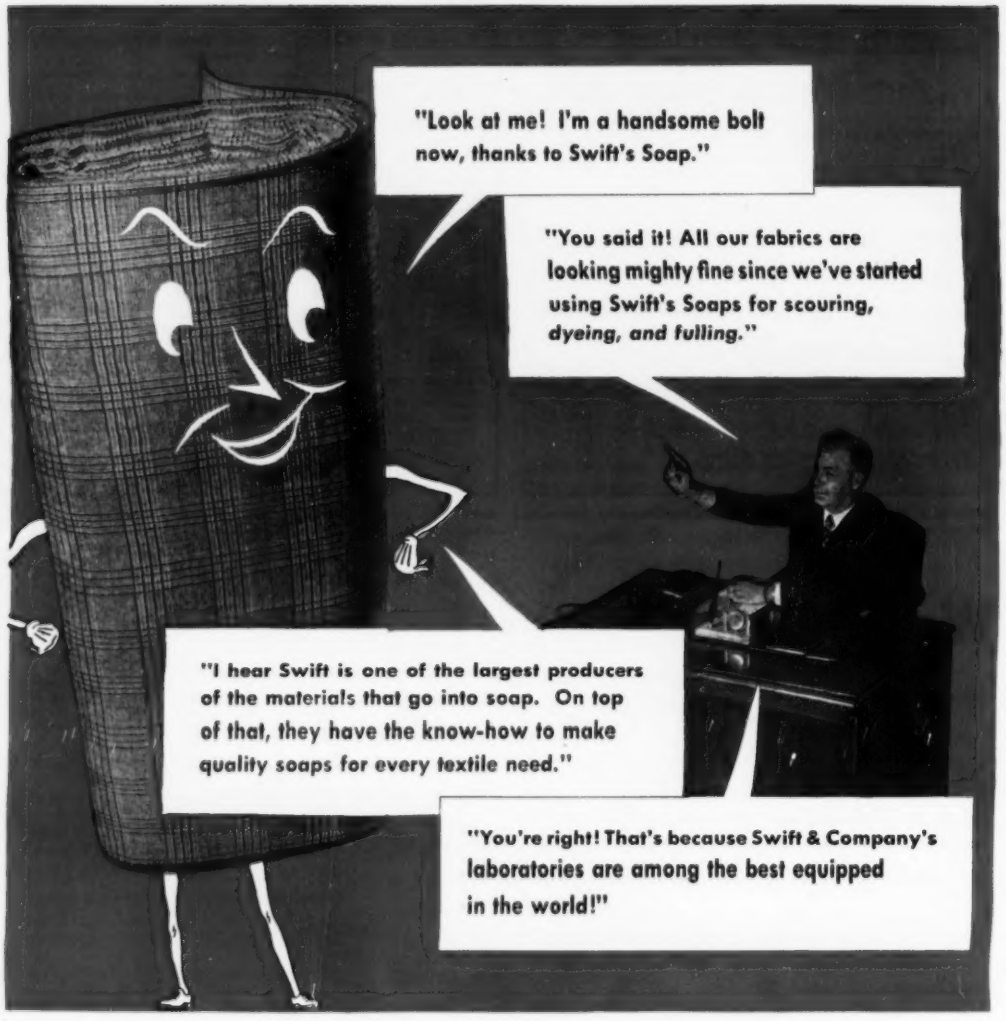
***INCREASING FILLING CRIMP** in an 18-oz. chafer duck (left) tremendously increased its durability to impact over normal 18-oz. duck (right) with normal filling crimp. Warp yarns are vertical in these pictures.*

FABRIC ELONGATION resulting from increased filling crimp emerged as the most important factor in fabric resistance fillingwise to impact in recent tests made by the Office of the Quartermaster General on Army-cot covers. At the same time, yarn and fabric strength were eliminated as significant factors.

Tests were conducted in research to improve the durability of folding-cot covers. Impact was tested by successive drops of a 120-lb. weight from heights of 8 and 12 in. Extensibility under static load was tested by the same device.

Effect of fabric elongation on cover durability was tested by testing three chafer ducks made of spun nylon, filament high-tenacity viscose rayon, and specification cotton duck. Test results are summarized in Table I. The nylon fabric is outstanding in its durability. The rayon cover showed little superiority over the cotton and, in addition, failed to recover from elongation after the first few impact blows. However, because of practical considerations, as use of nylon in higher priority items in time of war, further research was carried out on cotton ducks.

(Continued on page 274)


"Look at me! I'm a handsome bolt now, thanks to Swift's Soap."
"You said it! All our fabrics are looking mighty fine since we've started using Swift's Soaps for scouring, dyeing, and fulling."
"I hear Swift is one of the largest producers of the materials that go into soap. On top of that, they have the know-how to make quality soaps for every textile need."
"You're right! That's because Swift & Company's laboratories are among the best equipped in the world!"

There's a Swift Distribution Point *near you* . . . to give you fast, efficient service. Call on Swift for

Swift's Soaps
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Vertex Flakes
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White Ribbon Flakes
Wool Flakes

In drums and bags

Swift & Company
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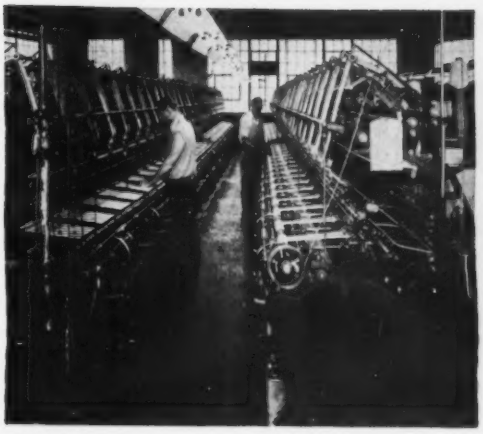


TANGIBLE BENEFITS *from increased labor efficiency and comfort can be realized with proper air conditioning.*

INCREASED USE OF FINER YARNS *makes necessary uniform conditions so that yarn properties will be uniformly affected.*

Hosiery Manufacturing Trends Require AIR CONDITIONING

HIGHLIGHTS: *Current knitting practices make air conditioning, including refrigeration, a necessity—Humidity affects physical properties of yarn—Temperature control holds machine settings within tolerances—Effect on labor efficiency important.*

By **H. L. KEMPANER,** *Carrier Corp.*

SINCE THE ORIGINAL INSTALLATION of air-conditioning equipment in a knitting plant, the many technical developments which have occurred in hosiery processing are making it necessary for the mills to provide themselves not only with a better kind of air conditioning, but with complete air conditioning—including refrigeration.

Definite trends are notable for the industry as a whole. The very nature of the man-made fiber nylon is a contributing factor, since it has a mineral base rather than vegetable or animal base. Both temperature and humidity affect the yarn's running qualities.

Of the trends which have developed, the following are perhaps the more pronounced:

1. Increasing use of finer yarns.
2. Increasing use of more precisely built machinery.
3. Increasing use of higher speeds.
4. Increasing cost of labor.

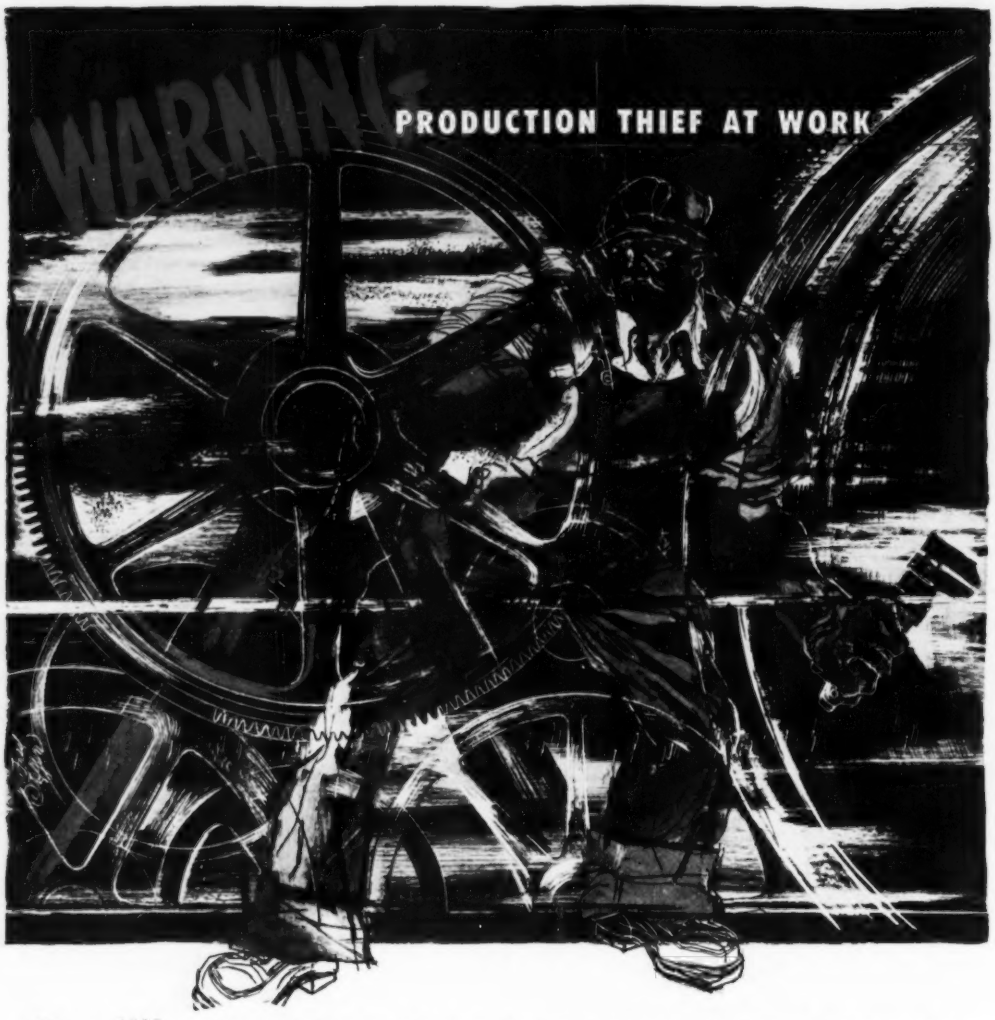
The increasing use of finer yarns results in the manufacture of finer hosiery which, in turn, realizes more income to the manufacturer. Successful realization of this, however, calls for various changes in the physical makeup of the mill in order to bring about a corresponding transition in manufacturing.

The basic requisite of quality in fine-yarn hosiery is formation by the knitting machine of tiny loops, by the millions, of precisely identical shape and size. To accomplish this, variables of microscopic minuteness must be controlled. As a consideration, it may be difficult to conceive that the action of bending a strand of yarn 180° around a fine needle requires the application of force. However, this is so; and variations in temperature and humidity affect the bending moment of the yarn.

Experience over the years proved that gumming and kinking of the yarn on the knitting machine was reduced to a minimum by proper air conditioning, which means that max-

(Continued on page 224)

VARIATIONS *can be virtually eliminated when machine settings are maintained and uniform yarn is used.*



He's a thief of the "sneak" variety—pilfering, robbing, stealing valuable production from machines in thousands of plants. The cost of his thievery is staggering—but he *can* be stopped!

You may not even suspect that he's at work in your plant. You may have to *look* close to find him. But there's a big reward when you do.

For example . . . here are some places to look.

Are you still using the old-fashioned "hand and paddle" method of filling grease guns—wasting time, wasting grease, risking grime and dirt? *There's a thief!*

You can save 3¼ man hours for every 100 lbs. of grease.

Are you lubricating machines the hand and muscle way? *Watch for losses here!*

You can save up to 23.9 man hours in applying each 100 lbs. of grease.

What about "down-time"—production interruptions for lubrication, or for part replacements due to faulty lubrication? *More thievery!*

You can lubricate hundreds of bearings from one central point, with the right amount of lubricant, while machines continue to produce.

Now are you suspicious that a production thief is working in your plant?

His disguise is "old-time, hit-or-miss, costly lubrication methods" that add to the costs of production.

There's one proven way to stop this loss.

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from barrel-to-bearing will increase your production and profits.

Telephone your Alemite Distributor now. Or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

ALEMITE
REG. U.S. PAT. OFF.

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

Another Product of STEWART WARNER

TEXTILE Equipment NEWS

Versatile Machine Makes Children's Socks

A new fancy rib machine, designated the LACEMRAP, has been developed by H. Brinton Co., Philadelphia, Pa., according to H. W. Anderson, vice president.

The ribber makes possible a new styling of fancy true-rib cuffs for infants' and children's anklets and hosiery—a rib top with jacquard designs produced either by wrapping or transportation of a design stitch which the company has termed embroidery. Two important features of the machine are said to be well-built construction and versatility. Mechanical provisions have been made for a picot edge, rubber lay-in, colored jacquard designs, as well as jacquard lace or mesh.

The rubber or Lastex lay-in attachment represents a new simplified design embodied in the machine either for use or as standby equipment, depending upon the style whims of the market.

The Brinton LACEMRAP Machine will be known as the Style R.E.L. 18-40 Design Selector. Deliveries beginning in the month of February will be made in two diameters most practical and desirable for infants' and children's hosiery; namely, 2¾ and 3 in.

An individual vertical yarn supply is available for each cylinder needle. The machine is constructed with single feed, two-speed drive, electric stop-motion and four-color yarn changer. The Brinton pattern-selection unit, adapted to many styles of Brinton-design machines, has been used as a basis for pattern selection in the new LACEMRAP.

In visualizing the demands of the future, H. W. Anderson has pointed out that an installation of these machines provides almost unlimited styling possibilities. When the market is receptive to all-lace cuffs and tops, with possibly pin-stripe horizontal motifs, this machine can excel. If only jacquard designs, with or without horizontal stripes, are desired, the weighting of the design can be obtained by variations in the yarn counts of the vertical yarns operated. When the machine has been set for the embroidery principle, certain style numbers undoubtedly will require rubber lay-in; in others it will not be necessary.

With 18 steps and 40 tricks provided on this machine, every known desirable design of a practical conception can be made, the company states.

It is anticipated that deliveries on this new Brinton machine will be on a 90- to 120-day-schedule basis.

WIDE STYLING possibilities to fill any market demands for children's socks are within the capabilities of this machine.

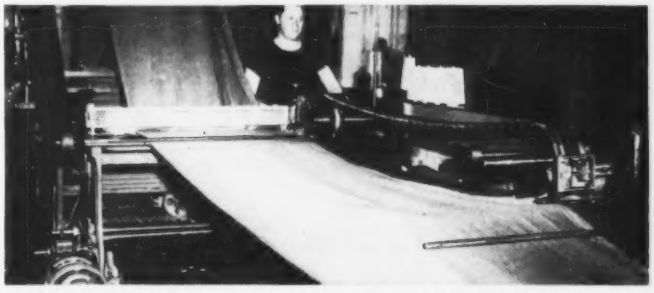
Automatic Tacker Can Double Production

A new automatic tacker, said to increase production and decrease labor costs, has been developed and will be sold by Bachmann Uxbridge Worsted Co., Uxbridge, Mass.

Called the Uxbridge Automatic Tacker, the new machine eliminates hand feeding and does a faster, more accurate job of aligning the selvages of cloth and feeding them into the sewing head. Varying widths are said to present no problem and can be handled easily without stopping the tacker for adjustments. The operation is entirely automatic, and the operator never has to touch the cloth once the process is started. Eliminated is the slow hand operation required to achieve the accuracy of alignment and the sore fingers resulting from continuous handling of the cloth.

Some of the other advantages claimed for the Uxbridge Automatic Tacker are:

1. Tacker can operate at twice conventional speeds; double production of a single machine.
2. Tacker eliminates hand feeding and nearly all manual labor connected with the process. One operator can run two tackers simultaneously with less work than now required to maintain production on one machine.
3. Tacker handles varied widths of cloth continuously and is designed for non-stop production.
4. Selvages are never lapped over as they frequently are as a result of poor hand alignment.
5. The Uxbridge automatic tacker is ruggedly built for many years of trouble-free operation.



AUTOMATIC FEEDING and alignment of selvages are two advantages of the automatic tacker.

New Spindle Has Radical Design

ONE OF TWO TYPES of New Era spindle is the oil-cushion model for replacement of old spindles. Spindle tube revolves on two ball bearings indicated by arrows.

Savings in power ranging from 25 to 50% are claimed as the main advantage of the New Era spindle developed by Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass. Additional advantages claimed are an increase in life of spinning tapes of 300%, and better spinning qualities. The spindle, of radically new design, has been under laboratory and mill test for about five years.

Main difference in the spindle's construction is that the conventional blade is replaced by a tube revolving on two ball bearings on a stationary central shaft. One ball bearing is located near the top of the spindle, the other is under the spindle whorl. As the tube and its bearings are the only revolving parts, the only parts to wear are the bearings themselves.

The ball bearings are of special construction developed by New Departure to extremely close tolerances. The company claims that the balls and raceways will stand up under continued high-speed operation. The bearing design is said to insure free-running characteristics, long life, and operation without vibration or need for frequent lubrication.

The bearings are lubricated with a high-grade sodium-base grease and are then sealed in the tube so that dirt or lint cannot penetrate. The bearings need to be relubricated only every three years on a conservative basis. Relubrication is accomplished by a special regreasing unit which washes out the old grease and applies new grease under pressure. Time required to relubricate 300 spindles is said to be only six hours.

The spindle is available in two types—with an oil-cushion base and a rubber base. The oil-cushion-base type is designed for replacement of spindles on old frames. Outwardly it resembles a conventional spindle. The base is filled with SAE 30 oil which acts only to dampen vibration set up by unbalanced loads in spindle or package. The oil is not used for lubrication.

The rubber-base model eliminates the use of oil entirely—thus eliminating oil pumping, oil spattering of yarn, and the need for purchase and application of oil. The rubber base holds the spindle to the rail and also isolates it from frame vibration.

A New Era wooden tube has been developed for use with the spindle. The tube is driven from the top of the spindle.

Pneumatic Picker Has 10,000-Rpm. Speed

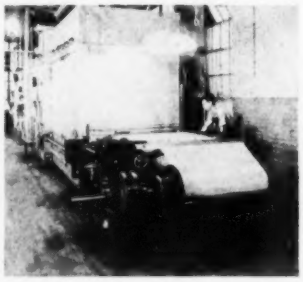
ROLL PICKER recently announced weighs only 1 lb., has three easily replaced picks.

A new and improved pneumatic roll picker has been developed by Skilsaw, Inc., 5033 Elston Ave., Chicago 30, Ill.

Featuring low cost and easily replaced picks in three sizes, the Skil roll picker has a speed of 10,000 rpm., a speed found to be most efficient for lint removal even in the tightest spots. Light in weight (1 lb.) and requiring minimum maintenance, the design of this new roll picker is said to insure cool-running, trouble-free performance due to oversize ball bearings.

Powered by 90 psi. air pressure, available in many mills, the Skil roll picker offers a modern, time-saving lint-removal method to replace costly hand-cleaning procedures. Very low air volume is required.

Hot-Air Slasher Holds Constant Heat



ROUNDER YARN, no "rolling," and rapid cooling are some advantages claimed for this hot-air slasher.

A new hot-air slasher in which uniform drying is obtained by controlling heat rather than speed has been developed by McConnell Sales & Engineering Corp., 2809 Central Ave., Birmingham 9, Ala. By use of highly sensitive instruments, the manufacturer claims that moisture content of yarn is held to a variation of less than 1%.

Further claims of the manufacturer are:

1. A rounder, smoother yarn is produced. Shedding at the split rods has been decreased to a considerable extent. Under microscopic examination, the yarn is rounder and has many fewer fibers sticking out from the body of the yarn than from that dried on conventional steam-cylinder slashers.

2. On small yarns, 30's or lighter, there is a definite limit of travel without support, in order to eliminate "rolling." The rolls in the McConnell dryer are spaced so that no "rolling" of yarn occurs.

3. Size pickup on rolls has been eliminated through use of proper distribution of heat.

4. Occasionally an end breaks inside the dryer, and winds up on a roll, necessitating the operator going inside the dryer and tying up the loose end. All rolls in the new dryer are easily accessible, making it possible for the operator to do this job with a minimum of discomfort.

5. In some cases temperatures as

The FIRST NAME and the LAST WORD IN TEXTILE PAPER CARRIERS

SONOCO

LEADS THE WORLD

Continuous search and research for a better cone surface of uniform texture has resulted in this latest SONOCO development—a smooth surface cone (3°30'), banded with a flock finish at the "critical" points, which prevents slippage in the primary winding as well as free delivery to the last turn.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

high as 400° F. are used. In case of doffing or stoppages of other kinds, this temperature is instantly dropped, so that there is no danger of scorched yarn. Even at this temperature, upon stopping the slasher, it is possible for the operator to go inside the oven within 2 min.

6. From experience gained from drying over 5,000,000 lb. of yarn in the slasher, it is claimed that fuel costs are considerably less, even burning bottled gas, than when using steam. It is estimated that drying 100 lb. of yarn, using 18¢-per-gal. bottled gas, costs approximately 26¢.

7. Dryers are fully insulated. By keeping the inside of the oven under a slight vacuum, there is little heat escape. Maintenance costs of the dryer are practically zero.

8. Any practical desired speed can be maintained on these slashers. Due to limitations of size boxes, take-off heads, and creels, a speed of from 50 to 75 yd. per min. has been found the most practical. Due to the very flexible heat and air control in these dryers, the number and size of ends being run is said to be immaterial.

Each of the company's dryers is individually engineered. In case of interest by a customer, the company's engineers visit the mill at no obligation, secure necessary data, and make recommendations. In no case are the dryers said to be for sale unless the quality of the warp can be improved and the speed of the operation increased by at least 50%.

Top-Dyeing Machine Has Controlled Feeds

NO RECOMBING of top is claimed needed after dyeing, because fiber is undisturbed during the dyeing operation.

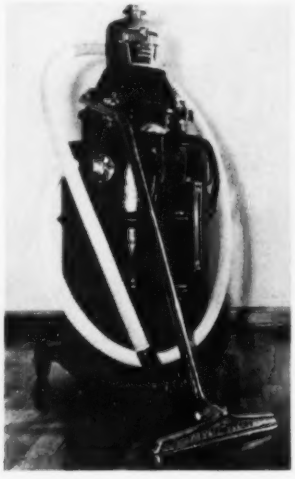
A new top-dyeing machine said to produce a uniformly dyed top and to eliminate the need of recombing after dyeing is now available from William Allen Sons Co., 65 Green St., Worcester 1, Mass. Fiber is said to be left undisturbed during dyeing operation.

The dye liquors are properly mixed before reaching the tops because of the controlled-volume feeds from the attached acid and dye tanks, the company states. The entire process can be operated manually or by a cycle control.

Tanks are equipped with vapor-tight covers which prevent the escape of steam into the dyehouse. Tops are automatically stripped from the spindles when the covers are raised, thus saving labor.

The Allen-Worcester top-dyeing machine is available in five capacities of 150, 300, 450, 600, and 750 lb. A laboratory size of 75-lb. capacity is also available. The entire unit is made from stainless steel for corrosion resistance and reduction of radiation losses.

Wet-Dry Vacuum Maintains Floors



MILL FLOORS can be cleaned and maintained by wet or dry methods by this new vacuum cleaner.

A new wet-dry vacuum, the MCV-255, with a capacity of 50 gal. has been added to the line of floor-cleaning and maintenance equipment manufactured by Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul 1, Minn.

The unit is powered by a 1½-hp. 110-v. 60-cycle a.c. or d.c. universal motor which gives the machine a water lift of 80 in. The motor is assembled from General Electric parts made to Multi-Clean specifications. The motor is cooled by a separate air-circulating system instead of by exhaust air expelled by the vacuum.

The vacuum is mounted on a heavy-duty, three-wheel truck. All wheels have roller bearings. The front wheel pivots on ball bearings and is attached to the tongue for easy movement and maneuvering. The truck is fully capable of carrying a capacity load of 50 gal. A glass gage shows the content level.

In the top of the drum is set a bronze-wool filter built into a specially constructed dust chamber. The machine is emptied easily by pulling it over a drain and opening a large gate valve which gives free passage to water, mud, and solids picked up.

Suggestion Box Has Improved Design

A SUGGESTION BOX of modern streamlined design with either one, two, or three panels is available in attractive hammer-tone silver finish on heavy-gage steel from Elliott Service Co., 30 N. MacQuesten Pkwy., Mt. Vernon, N. Y. Posters and bulletins are displayed in a burnished stainless-steel frame which blends harmoniously with the background finish. The steel suggestion receptacle and panels can be used separately, if desired.

Versatile Truck Carries 2,500 Lb.

A TRUCK WITH MANY USES is this floor model available in many types and with a variety of wheels and accessories.

The Load Carrier Junior industrial floor truck, a versatile truck easily converted for many uses with available accessories, has been developed by Market Forge Co., Everett Sta., Boston, Mass.

This truck is 30 in. wide with 60 in. of loading space between end racks, 63⅜ over-all length. It has a maximum

An idea for textile shippers ...by men who save more than they sell!

The steel straps that bind this carton of wool combing insure a space-saving, compact package that's easy to handle and store, safe to ship.

But the feature of this strapping application that's particularly noteworthy is the Signode* Special Lithographed Seals that have been used. Besides doing their regular job of securing the steel straps, these seals practically eliminate the danger of pilferage or substitution. Because they bear the manufacturer's name, they can't be replaced.

The field-trained Signode representatives who are helping to introduce this exclusive Signode development to all branches of industry are rapidly earning the reputation of "men who save more than they sell." For, with ideas such as this, and with Signode's* System of Planned Protection, they are able to point the way to improved methods in nearly every plant they visit. The savings that result regularly exceed the cost of any new materials or tools recommended.

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THE SIGNODE SYSTEM OF PLANNED PROTECTION

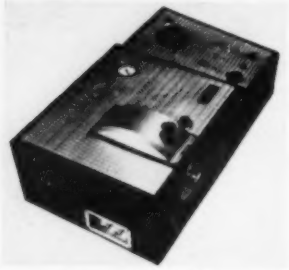
1. A thorough study of your shipping practices to determine where Signode Steel Strapping Methods can benefit.
2. A complete interchange of ideas and information with your plant personnel to insure the success of any new method introduced.
3. Recommendation of the strapping, tools and accessory equipment best suited to your needs; and a determination of whether or not the services of Signode's packaging laboratory are required.
4. Careful instruction of operators in proper use of strapping and tools.
5. Periodic recheck of methods introduced, with your personnel as well as with carriers and receivers as required.
6. Fast tool repair and replacement, regular personal contacts and a bulletin service that keeps you abreast of latest developments in packaging and shipping.

*Reg. U. S. Pat. Off.

STEEL STRAPPING PROTECTS YOUR SHIPMENTS AGAINST DAMAGE

capacity of 2,500 lb. distributed load and is furnished in tilt type, non-tilt type, wayon type, dolly type. Wheels of 4-, 6-, and 8-in. diameter can be furnished in semi-steel, aluminum, cushion rubber, hard rubber, or plastic. The truck is a companion model to the Market Forge Load Carrier and will use all the standardized accessories normally used on the Load Carrier, such as end racks, pipe stakes, box sections, shelves, leaf trucks, cradle units, rod and tube units, etc. The rounded edges and corners provide safety for the operator and to the material carried. Availability is immediate.

High-Precision Microtome Redesigned



CUTTING UNDER VACUUM is one new feature of the redesigned Ultramicrotome.

The Ultramicrotome, an instrument used to obtain cross sections of various materials to the thinness required for electron microscopy and certain types of phase or optical microscopy, [TW, June '48, p. 144] has been completely redesigned by the manufacturer, Custom Scientific Instruments, Inc., 541 Devon St., Arlington, N. J.

The new model, Type CS-3A, has been designed to operate under vacuum; and the control unit of the instrument and the mechanical unit have all been combined in one cabinet.

Some of the features of the instrument are:

Operation under vacuum.

Single, compact unit.

Arrangement for introduction of liquid nitrogen directly around the specimen being cut.

Adjustment of the angle of the specimen-collecting slide while cutting.

Direct view of the cutting section and deposition of specimens while cutting.

Provisions for adjustment of the specimen to engage various portions of the knife while in operation.

A cycling feed permitting the feeding of as small an amount as 600 microns of the specimen.

Practically completely indirect operation of the instrument by means of automatic controls.

Large range of feed to permit cutting sections for both electron and optical microscopy.

Automatic reversing and resetting of the feed unit, eliminating the possibility of jamming the feed.

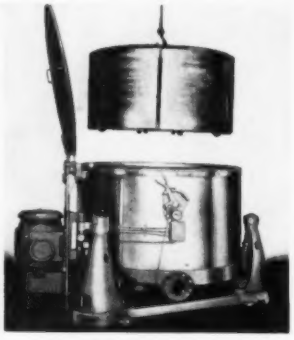
Attention to detail and controls to permit operation by an operator who has not had a large amount of training.

The high-speed disk is made from a special-alloy hand-forged duraluminum blank, forged so as to give the maximum resistance to radial stresses. The disk is 5 in. in diameter and is mounted between two specially made high-precision double-row ball bearings. The disk is mounted in a housing which is machined from two solid pieces of 24ST aluminum.

Bearings are lubricated by means of a wick and an oil slinger.

The cutting knife is mounted on the periphery of the disk by CSI's patented mounting arrangement. Opposite to this knife is a balancing slug which is adjusted at the factory so as to permit interchangeability of the cutting knives without rebalancing. The cutting knives themselves are made of a specially developed steel alloy and are sharpened by CSI's own process to a fine edge.

New Extractor Has Removable Twin Baskets



MAXIMUM EXTRACTOR PRODUCTIVITY is possible with this improved raw-stock extractor with removable twin containers.

An improved raw-stock extractor which has removable twin containers has been developed by Fletcher Works, Philadelphia, Pa. The "Twintainer" is suitable for extracting cotton, wool, or similar materials. Each container has a hinged bottom section for easy discharge of the material.

The containers, mounted on roller-bearing casters, are usually loaded, then wheeled or carried to the extractor. Insertion and removal of the containers from the machine is said to take but a minute or two, thus minimizing the extractor's idle time, and enabling it to function productively 80 to 90% of the time.

Labor and equipment savings can be very real with this new system. The company reports that in one Southern cotton mill, two men per shift have been eliminated by the installation of a Fletcher Twintainer which replaced three large conventional extractors.

Another advantage claimed for the extractor is the increased dryness of the extracted raw stock. The moisture remaining is only about 34% on the dry basis. This, of course, results in marked savings in steam consumption in the dryer.

The Twintainer is available in 50- and 54-in. sizes, having batch capacities of 320 and 400 lb. respectively. Four to five loads per hour can be obtained quite easily, it is claimed.

Filter Catches Opening-Picking Dust

DUST-LADEN AIR from opening and picking is filtered through cellulose sheets in this textile-mill air cleaner.

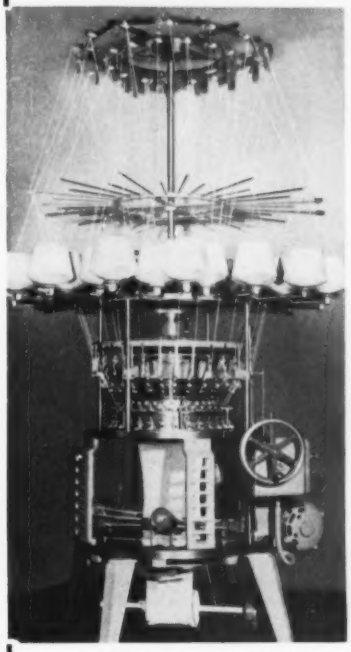
A dry-type lint collector, the Airmat Lint Arrester, for lint and dust control in textiles mills has been developed by American Air Filter Co., Louisville, Ky. By cleaning the air exhausted from picking, opening, and similar machines, it eliminates the lint nuisance common to mills and surrounding neighborhoods and also permits recirculation of the cleaned air to the workroom, thereby conserving heat. Recirculation also makes humidity control and air conditioning feas-

EDMOS *Speeds*

EUROPEAN KNITTING PRODUCTION

The universal demand today for ***higher knitting standards and speedier production*** emphasizes the need for EDMOS high speed knitting machines, unsurpassed for superior and versatile performance.

Like so many leading mills here at home, prominent European manufacturers are calling on EDMOS machines to fill the tremendous need at a tremendous pace. They prefer EDMOS Type EEM, for example, for its 4 to 1 production advantage over older machines without increased floor space; its versatility for Swiss rib as well as for "T" shirt fabric manufacture; its superior construction, interchangeability, ease of operation and wide choice of sizes from 12"-18 feeds to 24"-36 feeds.



Model: Type EEM 20"—30 feeds

To maintain the EDMOS policy of complete service, in line with the increasing European demand, Mr. Milton Moskowitz, President of EDMOS PRODUCTS CORP., is supervising operations abroad. From his temporary headquarters in Brussels, Belgium, he will visit countries shown on map during his stay. As a result EDMOS will arrange complete service, distribution and manufacturing facilities.

EDMOS PRODUCTS CORP.

13 CHRISTOPHER AVE., BROOKLYN 12, N. Y.

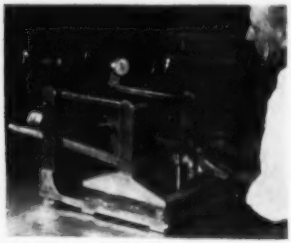
ible for the opening and picking rooms.

The Airmat lint arrester is built of standardized units composed of six pockets holding two sheets of Airmat paper supported on woven wire panels. Airmat is a laminated-cellulose material made from spruce fibers. Its porous, felt-like texture gives it the desirable characteristic of cloth, but unlike cloth, it has a smooth, napless surface which reduces lint adherence.

The units are assembled to form a partition in the air stream between the dirty-air inlets and the clean-air return. Dust- and lint-laden air passes through the pockets where complete cleaning is obtained by the filtering media. The cleaned air leaving the arrester may be returned to the work room by using the existing flue as the plenum chamber for the booster fan.

Settling chambers, or dust basements, of the size normally used in textile mills are no longer essential with the installation of an Airmat Lint Arrester; and much of the space can be diverted to more useful purposes.

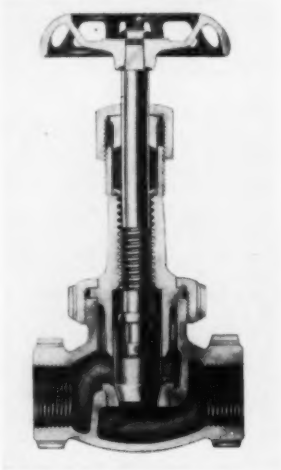
Web Thickness Measured to 1/100 In.



THICKNESS of fibrous materials can be measured quickly to 0.01 in. by this new device.

The Measure-Matic, a device for accurate thickness measurements of mats or webs of such fibrous materials as jute, sisal, cotton, wool, glass fibers, and the like has been developed by Gustin-Bacon Mfg. Co., 1412 West 12th St., Kansas City, Mo. Fibrous mats and blankets are placed on the table of the Measure-Matic, and the platen is lowered until it rests lightly on the material. Automatically a dial-indicator records the thickness of the material within 1/100 in., the company states. Resilience of compressible and deformable materials can also be measured quickly and simply with the Measure-Matic.

New Valve Has Long-Wearing Features



A BRONZE GLOBE VALVE of the plug type is available for 300-lb. service.

A new plug-type bronze globe valve for 300-lb. service has been developed by Jenkins Bros., 80 White St., New York 13, N. Y. The new valve is especially suited to severe services such as pressure regulation, steam control, by-pass lines, temperature regulation, apparatus throttling, bleeds, drips and drains, soot blowers, continuous blowdowns, or any other close regulation of steam. It is recommended for service of the type frequently found in dyehouses and bleacheries.

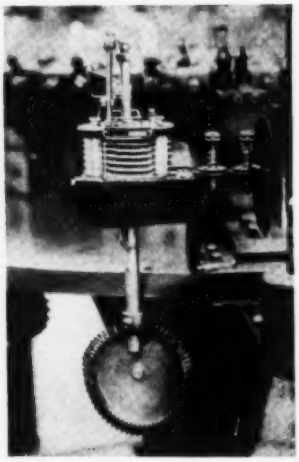
One of the features of this new valve is the Armor Seat and Slip-on Stay-on plug. Plug and seat ring are of JX500, a special-alloy stainless steel, heat treated to give proper hardness (500 Brinnell) plus extraordinary ductility, and make a combination said to be practically impervious to wear. The new Slip-on Stay-on plug is simple in design; has a T-slot for engaging spindle head; is stronger, trouble-free; and permits free flow.

Another advantage offered in this new valve is the design of the spindle, made of tough aluminum bronze, a new corrosion-resistant alloy. Larger in diameter, it has an exceptionally long (15.9-in.) thread. Nine threads are in contact at all times which assures less load per thread and longer wear, especially in the close throttle service for which this valve is so well suited.

Liberal dimensions of body, bonnet, and bonnet ring are said to provide exceptional ruggedness to withstand rough usage and to contain pressures far beyond those for which the valve is rated. A deeper stuffing box is designed to hold more packing, prevent leakage, and assure friction-free spindle operation. Unique, V-shaped lugs on union bonnet ring and body ends permit the use of any type wrench and will withstand repeated removals and reassemblies.

Available in sizes ¼ to 2 in., the new valve will provide exceptional maintenance economy and long life in any service requiring a 300-lb. bronze globe valve.

Yarn Feed Controlled On Komet Machines



VARIABLES IN FEED to knitting machines are controlled by this device for Komet machines.

An apparatus which makes it possible to control continuously the output of yarn taken by a knitting machine, the R.O.P., is being marketed by American Vitos Company, Inc. 220 E. 42nd St., New York 17, N. Y. The device is especially applicable to knitting of elastic yarns. At present the device is available for mounting on Komet machines only. According to the distributor, the length taken per turn of the knitting machine is what finally determines the shape and quality of the article. The control of the tension is not sufficient to obtain this result because the tension is not the only variable which governs the feed. Although the tension may be constant, the feed may still vary, especially with elastic yarns.

The R.O.P. apparatus is said to neutralize within wide limits all variables which may modify the feed, such as the variation of the pull when the yarn leaves the spool or bobbin, variation in yarn properties (as friction

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EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE

and elasticity coefficients), and variation in the knitting-machine speed.

The R.O.P. device makes use of a combination of two systems of driving rollers called "capstans," one of which rotates at a greater speed than the yarn while the other rotates at an equal speed. The R.O.P. apparatus is said to eliminate drawbacks of previous ordinary capstan devices because it uses as regulator the variant of the arc of the driving of the yarn by the cylinders. This is done by means of two processes which complete each other:

1. An elastic member called a "fisher" causes the driving arc to vary by adding a resistant arc.

2. When the yarn reaches a sufficiently low tension in the last turns, it no longer rests against the roller and the corresponding portion no longer intervenes in the driving. This fraction of loose turns constantly varies to perfect the regulation. A special system of guiding the yarn avoids any tangling when the turns begin to float and guides them in such a manner that no further disturbance is possible.

Aluminum Heddle Frames Feature Rigidity

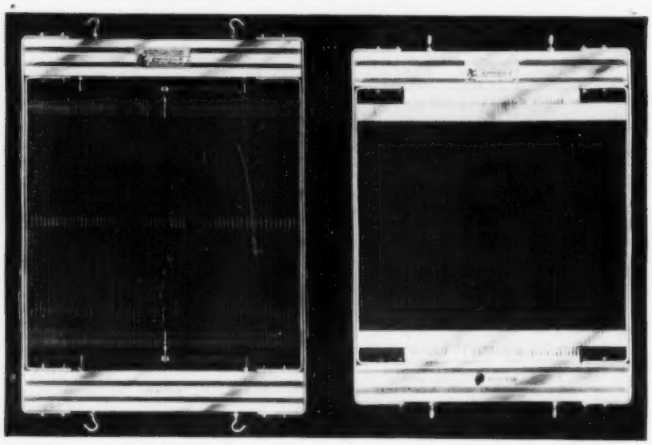
Two aluminum heddle frames designed especially for efficient use on high-speed looms have been developed by Emmons Loom Harness Co., Lawrence, Mass. Both include a limited-slide hook frame and a special drawing-in frame for use with the drawing-in machine.

Most important single feature of the new Emmons frames is their rigidity. This new rigidity is said practically to eliminate bowing, assuring free heddle movement and the reduction of yarn and heddle breakage to a minimum. Loom speeds can be increased, weaving efficiency is improved, and seconds from these causes are almost non-existent, the company states. Further, outside hooks or eyes are adjustable laterally to any position and vertically to some extent on both frames.

The special drawing-in frame features heddles that slide freely the full length of the frame. Heddle rods on this frame are permanently spaced at proper intervals; and there are no rod supports of any kind, overcoming the possibility of faulty adjustment. Heddle rods on the drawing-in frame have a beaded edge which, because of its scientifically shaped bearing surface, aids free sliding of the heddles. The new Emmons drawing-in frame is easily opened for addition or removal of heddles.

The new frames also have all the special advantages of aluminum, such as its non-corrosive and long-lasting properties.

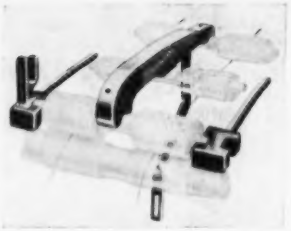
A third frame featuring a continuous slide hook is now available in sample lots. Also in the development state at Emmons is a new dobby-type frame which, it is said, will be 25% lighter per linear foot than regular weaving and drawing-in frames.



ALUMINUM HEDDLE FRAMES are available in two types, a limited-slide hook frame (left) for standard flat heddles, and a special frame for any type weaving for use with a drawing-in machine.

Saddles and Nebs Permanently Oiled

Self-oiling, long-life bearings are featured in a new line of saddles and cap-bar nebs recently developed by Whitehead Engineering Co., Fairburn, Ga. and now being distributed exclusively by the Meadows Mfg. Co., Atlanta, Ga.



AN OIL-IMPREGNATED cellulose material in which oil makes up 48% of the weight is used for the bearings of these aluminum saddles and nebs.

The new saddles and nebs can't score the rollers, never need oiling, and will last for years, the company states. In addition, it is stated that saddles cannot cock or wander, and don't need periodic re-adjustment.

The bearing material used is a cellulose material called Permalube, which is impregnated under high pressure with non-drying capillary oil. Oil stored up in thousands of tiny capillaries which feed lubricant to the rollers as needed makes up 48% of the weight of the material. Thus friction and wear are reduced close to the vanishing point, it is claimed.

That Permalube seems to wear almost indefinitely is reported as a result of rigorous laboratory tests and actual in-mill service. In one company laboratory test, Permalube was subjected to 1,000 hr. of continuous operation at 1,800 rpm. under a load of 50 lb. on a 0.04 sq.-in. projected area. This is roughly equivalent to several years' normal service on a frame, yet Permalube was said to take the punishment and to show wear of only 0.002 in.

The company also reports that many mills have been testing Permalube products for the past six months, and all report few or no signs of wear.

The Whitehead saddles and nebs themselves are made of polished, die-cast aluminum in which Permalube bearings are housed securely in close-tolerance sockets. One advantage of aluminum is that, even if rough rollers or some other abnormal condition should cause the bearing to wear completely through, the iron rollers would not be damaged by the aluminum.

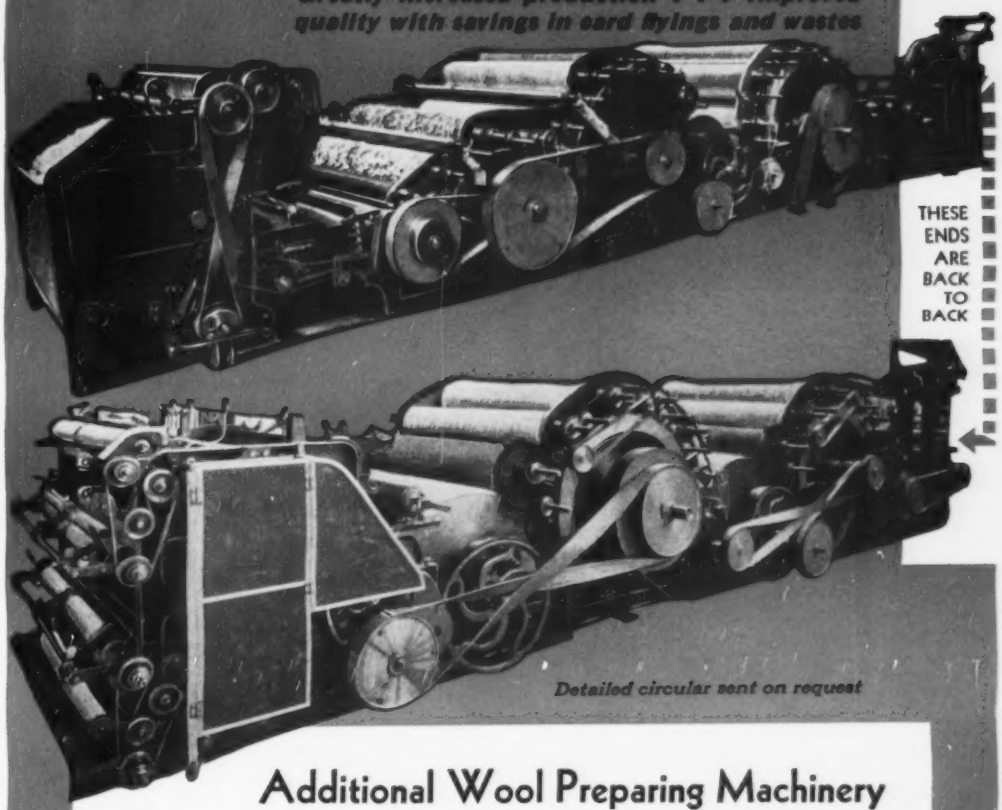
In designing the parts, careful attention was given to cleanliness. They are streamlined to avoid sharp corners and crevices that collect lint and make cleaning difficult.

The saddle is self-aligning and can't

Duesberg-Bosson Woolen Cards

for the manufacture of Fine, Medium and Carpet Wools

Greatly increased production . . . Improved quality with savings in card flyings and wastes



Detailed circular sent on request

Additional Wool Preparing Machinery

Oiling Device • Mixing Picker (Fearnaught Type)
Picker Feeders • Automatic Card Feeders
Patented PERALTA Machine
Intermediate Center Draw Broad Band Feed
Tape Condensers
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DB

Duesberg-Bosson of America, Inc.

FITCHBURG, MASSACHUSETTS

cock or wander, the company states. The heat-treated stirrup is permanently adjusted at the factory to fit the specifications of any frame. Thus periodic readjustments in service are completely eliminated. Ample and positive jack-knifing of the saddle simplifies picking of the rollers. It is also reported that the new Whitehead equipment cuts the frequency of picking about in half.

The nebs are priced at 30¢ each and the saddles at 60¢ each.

Photoelectric Device Controls Print Registration

TRADEMARK PLACEMENT in mechanical wrapping can be controlled by use of this photoelectric device.

A photoelectric registration control, type 23LF3, for maintaining accuracy in high-speed printing and cutting operations on fabrics is available from Photoswitch Inc., 77 Broadway, Cambridge 42, Mass. It is recommended for all types of automatic packaging, printing, labeling, and cut-off machinery.

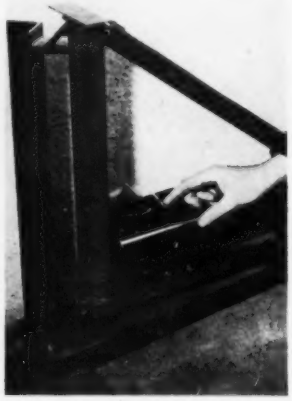
A typical application of the control is in connection with the cutting operation of wrapping machines. Photoswitch continuously watches the trademark printed on each wrapper and maintains it at its proper location with reference to the wrapper edge which is being cut off. Without the control, the trademark can continuously change its location with reference to wrapper edge, due to paper stretch and shrinkage and drive-roll slippage.

The control is said to combine extreme sensitivity with high-speed operation. The circuit will respond to impulses as short as 1/1000 sec.

Photoswitch design includes many unique features. The splitbeam scanning head is said to be the most compact available to industry. Light source and phototube are served by a single lens, handling both transmitted and reflected light.

Type 23LF3 provides flexibility. It is said to operate from both opaque and transparent materials and to control from either light or dark registration marks. It is designed to control practically any type of correcting means on both continuous- and intermittent-feed machines. Careful attention has been given to the selection of electrical components with proved long life and reliable, maintenance-free operation.

Industrial Seismograph Records Mill Vibration



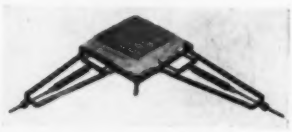
A PORTABLE SEISMOGRAPH may be used by textile mills for analyzing machine- and building-vibration problems.

A portable "seismograph" for use in measuring vibration in textile mills has been developed by The Barry Corp. of Cambridge, Mass., and Westinghouse Electric Corp., Baltimore, Md. Because of its compactness and easy portability, it is expected that the instrument can be used to analyze vibration problems on machinery and other equipment.

The Vibrograph, about the size of an ordinary box camera, ordinarily embosses a permanent record of vibrations on a transparent film. It records over the range of 600 to 15,000 cycles per min. and amplitudes as low as 1/10,000 in. or as great as ⅛ in. Mounted in the Barry frame, vibrations with a frequency as low as 120 cycles per min. can be measured even in swaying buildings where no steady reference point is available.

The Barry seismic pendulum provides a Vibrograph support whose natural frequency is lower than the frequency of the vibration to be measured. The Vibrograph thus tends to remain stationary in space. The pendulum is comprised of a triangular arm supported from a vertical column by means of frictionless elastic hinges. The low natural frequency is attained by mounting the Vibrograph relatively close to the hinges and setting a large mass in a pan at the free end of the arm. The Vibrograph includes a prod adapted to contact the structure whose vibration is to be measured. This contact is achieved, in the case of the wall of a building, by setting the seismic pendulum in such a position that the prod contacts the wall.

Tester Determines Knit-Goods Shrinkage



ELASTICITY OF KNIT GOODS may be checked against standards by use of this new tester.

A tester for determining shrinkage of circular-knit fabrics of rayon and similar materials has been developed by U. S. Testing Co., Hoboken, N. J.

To test a given material, a swatch 8 to 10 in. square is taken from the fabric. Using a template, a 5-in. and a 6-in. square are marked on the fabric. Sides of the squares are parallel and equidistant. The specimen is then laundered, rinsed, extracted, and dried. The percentage of shrinkage is determined by measuring the 5-in. square in directions of both courses and wales. This dry shrinkage is obtained in order to determine the direction of greatest shrinkage and thus ascertain how the specimen is to be placed on the tester in the correct position to allow for the maximum stretch.

The tester is placed on a flat surface with one arm to each side of the operator. The knobs in each arm are loosened to the end of the screws, and the needles are placed closely together and parallel to each other. The dried swatch is put in the frame with the direction of the greatest amount of shrinkage facing the arm which allows for a greater stretch.

With the swatch in the tester, tension is applied alternately to the wales and the courses of the fabric until the original 5-in. square has been obtained. When the square has been stretched to the original 5-in. dimensions, the tensions registered on the scales are taken and recorded as the

(Continued on page 262)

USERS EXPRESS PREFERENCE FOR Exide IRONCLAD BATTERIES

Electric industrial truck users have frequently expressed a preference for Exide Ironclad Batteries . . . the batteries that assure peak performance day after day.

Such overwhelming preference for the Exide-Ironclad Battery is based upon user experience. This unique battery has, during the past 35 years, proved itself to be a thoroughly dependable, safe and efficient power source for all makes and types of electric industrial trucks.

Different from all other batteries in construction as well as in performance, the Exide-Ironclad possesses ALL FOUR of the essential characteristics demanded of a battery for electric industrial truck service—(1) high power ability, (2) high efficiency, (3) great ruggedness, and (4) long life. These characteristics are due to the special construction of the Exide-Ironclad Battery, especially its rugged, tubular positive plate.

Write for further particulars and FREE copy of Exide-Ironclad Topics, which covers latest developments in material handling and shows actual case histories.

1888...Dependable Batteries for 61 Years...1949

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

General Announces Many New Dyes

A large number of new dyes and other products have been developed by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. Descriptive literature on each is available from the company.

The new products are:

Fastusol Orange L7GL-Cf, a homogeneous direct dyestuff suitable for dyeing cotton, rayon, and other cellulosic fibers. It produces fairly bright shades of orange possessing very good fastness to light on cotton and rayon when exposed either in the Fade-Ometer or in sunlight.

Para Orange 3R-CF, a homogenouse Para color which produces bright reddish shades of orange on cotton, rayon, and other vegetable fibers when coupled with Nitrazol CF Conc. It possesses moderate to fairly good fastness to washing on both cotton and rayon. Light fastness is poor to moderate on cotton and moderate on rayon. Aftertreatments with resin finishes do not affect the light fastness.

Alizarine Yellow R-CF, a mordant dyestuff which produces very reddish shades of yellow on wool and has unusually high tinctorial strength. Dyeing is by all-chrome dyeing methods.

Fast Light Orange GA Conc. CF, a very-level-dyeing acid dyestuff with very good to excellent fastness to light. It produces yellowish shades of orange on wool. Can be discharged.

Rapidogen Black Brown IT, a stable azoic compound for cotton and rayon which is soluble in alkali. After printing and drying, the product develops in acid ageing to form an insoluble pigment. It has very good light fastness, good all-around fastness.

Fastusol Blue L5GA, a homogeneous direct dyestuff for producing bright shades of greenish blue when applied to cotton, rayon, and other cellulosic fibers. It possesses very good fastness to light on cotton and excellent fastness to light on rayon.

Diamond Black FA-CF, a mordant dyestuff producing full jet shades of black possessing good all-round fastness properties. It is recommended for inexpensive deep, black shades on yarn, slubbing, and loose wool when required to be fast to bleeding against cotton or rayon. It can also be used on piece goods.

Diazo Indigo Blue BRRA Conc. CF, a homogeneous diazo dyestuff which produces fairly bright reddish navy blues on cotton, rayon, and other cellulosic fibers. It possesses fairly good fastness to washing, and good fastness to water, perspiration, and light.

Diazo Orange LGA Conc. CF, a homogeneous dyestuff suitable for dyeing cotton, rayon, and other cellulosic fibers in their various forms. When diazotized and developed, this dye produces fairly bright shades of reddish orange possessing moderate to fairly good fastness to washing on cotton and rayon.

Fast Orange Salt RDN, a product soluble in water which couples directly with Naphtholates to form insoluble naphthol colors. It yields reddish-orange shades with most naphthols.

Crease-Resistant Finish Is Water Soluble

Synthrez D, an monomeric methylolurea condensate used for the production of crease-resistant and shrink-resistant finishes on rayon or cotton fabrics has been developed by Synthron, Inc., Ashton, R. I. The finish can also be used in the production of glazed chintz and other durable finishes, and is compatible with selected delusterants, softeners, and water repellents, the company states.

Synthrez D is a soft, creamy, white paste which dissolves completely in water to form a clear, colorless, nearly neutral solution. Synthrez D is exceptionally stable, and its water solubility is not affected by storage, under favorable conditions, for a number of months.

Synthrez D is used for the production of crease-resistant and crush-resistant finishes on rayon and cotton fabrics. It may also be used for imparting shrinkage-resistance or combined shrinkage- and crush-resistance. It does not produce any appreciable stiffening of the fabric; although, where stiffening is desired, Synthrez C may be used in admixture with Synthrez D.

Gums Dissolve Almost Instantly

Gum tragacanth, locust bean (Carob), and Karaya now can be "dissolved" in a matter of minutes as a result of a new process developed by Glyco Products Co., Inc., 25 Court St., Brooklyn, N. Y.

The new Aqualized gums, now available in commercial quantities, eliminate the disadvantages of regularly processed gums. They do not require the usual boiling, alkali treatments, or mixing with sugar, glycerine, glycols, or alcohol. The process does not change the physical properties of the gums or their solutions. They may be used in food as well as in technical products.

Aqualized gums can save many hours of dissolving time because they go into solution in a matter of minutes without the formation of lumps. They require no filtering, and there is no loss of undissolved gum.

Aside from saving heat and cutting down on processing time, the new Aqualized gums eliminate degradation and wastage entirely. In addition, the color, odor, taste, and keeping qualities of the finished products are not altered.

Wetting Agent Has Low Cost

A new, low-cost, liquid wetting agent and detergent of the alkyl aryl sulphonate type has been developed by Monsanto Chemical Co., St. Louis 4, Mo. A pale-lemon viscous fluid, it is sold under the trademark Santomerse 30-X.

The product is especially designed to give quick and effective wetting at low unit cost.

The product is a clear, extremely light-colored solution, containing 30% solids. The solids content is made up of approximately 85% active alkyl aryl sulphonate and 15% sodium sulphate. Santomerse 30-X has remarkable resistance to decomposition by either strong acids or alkalies, even under extreme conditions.

Santomerse 30-X liquid wetting agent is recommended by the company for wet processing of textiles and many other applications where surface tension reduction and quick wetting is desired.

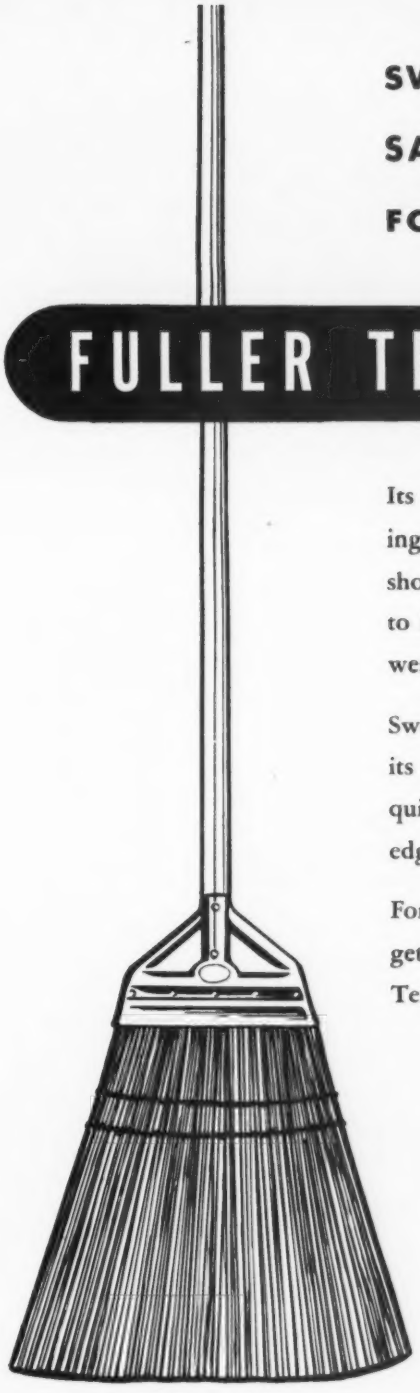
Surface-Active Agent Has Superior Properties

A concentrated alkylated aromatic sulphonate, said to show nearly twice the wetting-out action possessed by the conventional alkylated aromatic sulphonates, is being marketed as Hartofol C by Hart Products Corp., 1440 Broadway, New York, N. Y. Hartofol C, a liquid gel, is said to be stable to both organic and mineral acids as well as all alkalies. It can sat-

(*Continued on page 270*)

SWEEPERS EVERYWHERE
SAY IT'S A BEAR
FOR WEAR

FULLER TEXTILE BROOM



Its rugged, workmanlike construction—including a light metal casing to protect the broom's shoulder — combines with long-wearing fibers to increase the life of this broom. Actually outwears 3 to 6 ordinary brooms.

Sweepers appreciate, too, its light weight and its extra wide flare that makes it easier and quicker to cover large floor surfaces. Sweeping edge does not "heel over".

For true economy in *your* mill, make sure you get the longer-lasting, easier-handling Fuller Textile Broom.

Phone your local Fuller Branch Office or write

The FULLER BRUSH CO.

INDUSTRIAL DIVISION
3594 MAIN ST., HARTFORD 2, CONN.

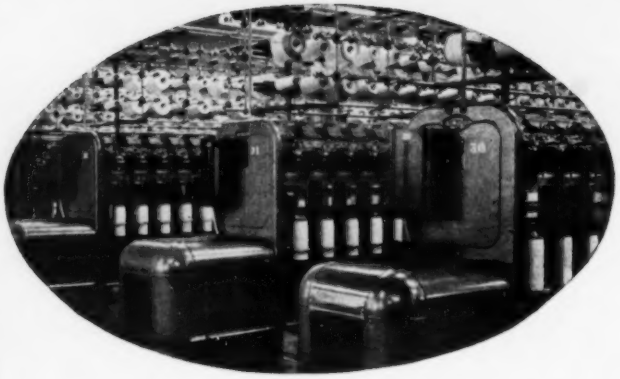
IN CANADA: FULLER BRUSH COMPANY, LTD., HAMILTON, ONTARIO

VERNEY CORP.

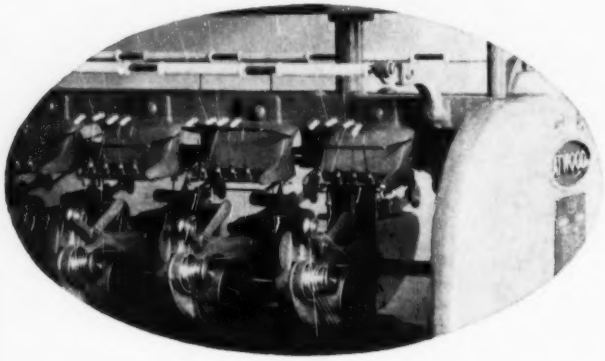
TWISTS SPUN RAYON ON MODEL 10'S

UNIFORM TWIST

IS GUARANTEED BY SEVERAL ATWOOD FEATURES



Twister bobbins of spun rayon, that are uniform from bobbin to bobbin and from spindle to spindle, are produced by The Verney Corp., Brunswick, Maine, on Atwood Model 10 Ring Twisters. These are the all-purpose ring twisters with automatic stop motions for each end and each ply.



Mounting of supply creel to provide free delivery . . . accurate control of tension . . . constant yarn speed delivered by ***feed rolls*** . . . smooth traverse of ring holder rail . . . rigid mounting of rings and ring holders . . . and use of one endless, lapless belt to give uniform speed from spindle to spindle . . . all contribute to accurate and uniform control of twist on the Model 10.

UNIVERSAL WINDING COMPANY

ATWOOD DIVISION

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Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 ***automatic stop motion for each end and ply***

Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

COSTS and JOB SECURITY

GLENN GARDINER

We have been —and still are— in a seller's market for some products. But, as far as textiles are concerned, we are at the present in a buyer's market. In some textile fields, this period arrived some time ago. Customers are becoming fussier about getting their money's worth. The company which offers a good product at a fair price is, therefore, in the best position to get its share of available business.

Overseers and foremen have a part to play in meeting the demands of present-day customers who are spending their money only where they can get the best buy. Their part is to put quality into every operation. They must attack every possible cause of unnecessarily high cost in producing textiles. Also, they must seize every opportunity to inform the people under them regarding the relationship between cost, quality, selling price, and sales volume.

Two factors complicate the supervisor's problem in connection with quality and cost:

First, some departments are required to work shorter hours. This may be because certain textiles are seasonal. Or, it may be caused by change in styles or processes. Costs will shoot sky high if the supervisor "stretches out" operations in order to keep his men working full time. Personal sympathy for these workers only boomerangs to their own disadvantage. For when costs are too high, and customers do not buy, not only will shorter and shorter hours ensue, but the whole future of the business is involved.

Second, many mills have been working overtime. Workers are reluctant to see this overtime work disappear. Supervisors are not always too careful in pruning it away as quickly as possible. Not only is overtime work more expensive because of the time-and-a-half involved, but there are other reasons why it is not economical. Men and especially women invariably work less efficiently in an overtime period. Very often quality suffers, either because workers are more tired, or because supervision is not so close.

Therefore, the textile supervisor should keep in mind the following twelve points to keep costs low, quality high:

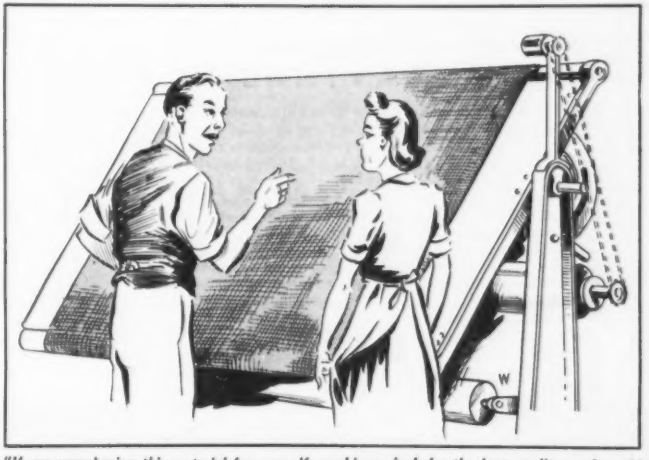
1. Plan work in advance to avoid as much overtime as possible.
2. Constantly check to keep hours of labor in proportion to output.
3. Hold workmen up to fair standards of performance.
4. Check waste of time, supplies, materials, equipment, and services.
5. Help sell workers on improved methods, changes, or proposed plans.
6. See that men work according to the methods laid down.
7. Show how low quality on one operation affects the quality of the finished product.
8. Give full credit for quality workmanship.
9. Arrange your operations, layout, plans, and the division of jobs to fit the volume of work to be done.
10. Improve worker attitudes by good supervision.
11. Maintain fair and just discipline.
12. Ask workers, "If you were buying this material for yourself, would you look for the best quality, and would you be influenced by the cost, in making your purchase?"

Above all, the supervisor must remember that when a company's income falls off, it must trim its expenses in the same manner as an individual. Almost every textile company today is faced with the necessity of strictly governing its expenses. This situation places a responsibility on every supervisor to use thrift in controlling all elements of expense in his department.

You may feel that the economies which you alone can effect in your department may not be sufficient to have any important influence on the final selling price of your company's product. But you, in combination with other supervisors of your organization, can do much to keep quality up and costs down to the minimum.

There may be many things that top management is doing to try to stimulate and maintain sales. The management, however, can much more effectively keep customers buying if it has the backing of a supervisory organization that is cooperating to keep its departments efficient.

Your own personal interest is tied up with the financial success of your company. Also, the jobs of all the people working under you are equally at stake. It is in the supervisor's interest, and in the interest of each single worker, to see that the customers' buying power is increased so that sales will hold up among cost-conscious buyers.



"If you were buying this material for yourself, would you look for the best quality, and would you be influenced by the cost, in making your purchase?"

Kinks AND SHORT-CUTS

Ends in Stripe Pattern Counted Mechanically

✻ **PRIZE WINNER FOR FEBRUARY**
(September contest)

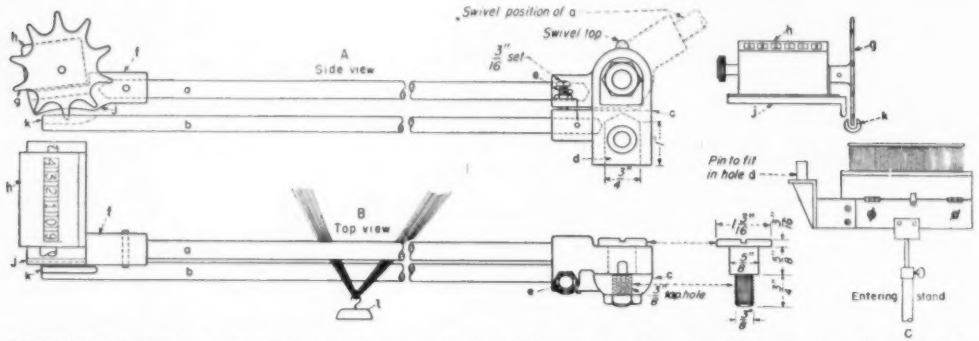
Warping a pattern that contains differing numbers of ends of various colors is usually a tedious and time-consuming job. It is also a job that leads to many errors. Often, a stripe pattern of several thousand ends, for example, may contain a large number of stripes that require a differing number of ends of several colors. It is necessary that the correct number of ends of each color of each stripe be entered.

Entering the warp ends usually requires a skilled, well-experienced operator. Even then, errors are frequently made; and much time is lost in checking the color counts.

The single-end counter shown in the accompanying sketch is a valuable aid to the entering operator. It reduces to a minimum the number of counting errors made, which saves considerable time for the enterer. It also permits a much less skilled and experienced operator to be assigned to the entering job. The counter is a unit within itself and can be attached or removed from the entering stand without any damaging modifications being made to the stand.

The critical parts of the counter are two crossarms, a star wheel, and a unit counter. The crossarms, *a* and *b* in the sketch, are made of ⅜-in. rod. The right-hand ends of the rods are pinned in sleeve extensions from end bracket *c*. The bracket is designed so that crossarm *b* is pinned to it in a stationary position. Crossarm *a* is bolted to the bracket through the eye of a stud journal and can be swiveled upward.

The lower end of the bracket is



COUNTING WARP ENDS in a stripe pattern can be done quickly and easily by the use of the mechanical counter shown here. Mount the device on the warp-entering stand and draw the ends off the end of arm b. The yarn turns the star wheel and registers the number on the mechanical counter.

A $25 SAVINGS BOND FOR YOUR KINK

✻ **You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—*before* publication. In addition, we award *every month* a $25 Savings Bond for the accepted kink we consider most useful.**

Don't delay. Don't worry about dates. Send in your kink *now*. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

Writing kinks is easy. It's fun. It's profitable. Give it a try. *Now*.

RULES OF CONTEST

1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (penciled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

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MAKERS OF CERFAK

tapped out to form a ¾x1-in. hole, which is used to mount the counter device on the entering frame. The hole is indicated at *d* in sketch *A*. The pin on the entering frame over which hole *d* fits is shown at the left-hand side of the entering frame in sketch *C*.

Setscrew *e* in sketch *A* is screwed into a flange on the stud sleeve that holds crossarm *a*. The screw is used to stop arm *a* by resting on the sleeve to which arm *b* is attached when *a* is lowered over the yarn ends to be counted. Screw *e* can be raised or lowered to control the height of *a* above *b*.

The left-hand end of crossarm *a* is pinned in the sleeve extension of a bracket that supports star wheel *g* and unit counter *h*. The sleeve extension is shown at *f*. Slot *k* is cut lengthwise in lower crossarm *b* to permit the points of star wheel *g* to dip below the upper edge of *b*.

The counting device is used as follows:

The counter is mounted on the entering stand by inserting the pin on the stand into hole *d* in end bracket *c* of the counting device. Swing the device around into a convenient position for handling the yarn ends from the warp beam to the heddles mounted in the entering stand.

Now raise upper arm *a* on its swivel stud so that the yarn ends can be laid over arm *b*. The yarns of one color for one stripe should be brought over at one time, unless there are so many ends in that color that their number would cause inconvenience in handling and counting them. Tie all the ends together and hang a small weight on them, as shown at *l* in sketch *B*. The weight will place enough tension on the ends to hold them straight.

When the ends have been tied and weighted, swing arm *a* down again until stop screw *e* rests on the sleeve of arm *b*. Check the depth of the points of star wheel *g* in slot *k*. They should be deep enough to prevent a yarn end from sliding under the wheel point without turning the wheel. Make certain also that plate *j* is shaped correctly to guide the yarn over the slot and also to guard the next point of the wheel so that the yarn end does not touch it.

With the setting thumb screw at the back of counter *h*, run the numbers of the counter around until the counter registers zero.

The device is now set for counting the ends. Draw the yarn ends off the end of arm *b* one at a time, and place them in their proper positions in the cross reed of the entering stand. As each yarn end is drawn off arm *b*, it slides under plate *j*, strikes the down point of star wheel *g* and turns it one-tenth of a revolution. The star wheel causes the registering pin of the counter to turn one-tenth of a revolution, registering one unit on the counter. As the yarn passes out of the device, the next point of the star wheel is brought into the down position.

When all the ends of one color have been drawn off arm *b*, the total number will be accurately registered on the counter. Run the counter back to zero, and repeat the counting operation for all the ends in the warp. *(K-1043) E. Swindells, Cheshire, England*

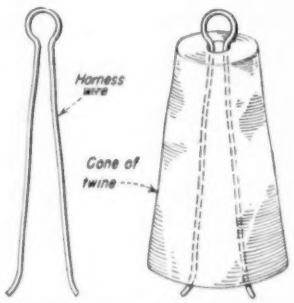
Holder for Twine Cone Saves Much Handling

A holder for a cone of twine, such as those used in the beaming, sizing, twisting, and weaving departments, can be made as shown in the accompanying sketch.

Bend a harness-mount wire in the hairpin shape shown, with the bend enlarged to form an eye a little larger than the inside diameter of the hole in the top of the cone. Flare out the ends of the wire to form flanges to support the cone.

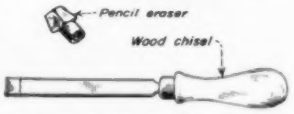
Hold the legs of the hairpin together, and insert the flanged ends through the top of a cone of twine until the flanges come out at the bottom of the cone. The spring action of the wire will hold the hairpin legs against the inside of the cone. Hang the cone in a convenient place by hooking the top eye of the hairpin over an eye screw, nail, etc.

The twine will feed off the cone as the operator pulls downward on the twine end. *(K-1036) H. E. Wenrich, Berwick, Pa.*



***A TWINE HOLDER** that saves handling a cone of twine each time a small length is needed can be made by bending a harness wire as shown here. Hang the cone in a convenient place, and pull the twine over the lower end of the cone.*

Use Pencil-Eraser Guard On Point of Wood Chisel



***THE CUTTING POINT** of a small wood chisel needs protection against being damaged by contact with tools in the fixer's toolbox. A cap-type rubber pencil eraser makes an excellent protective cap for the chisel point. Just stick the point in the hollow end of the eraser as you would a pencil.*

This type of eraser is useful too for capping the end of a small round file to provide a grip guard. **(K-1033) H. E. Wenrich, Berwick, Pa.**

Scheduled Oiling Keeps Mules in Shape

In many woolen and worsted mills, spinning mules are often damaged because the spinner does not oil the bearings according to schedule. Many spinners either do not know the locations of all the oil holes or do not assume the responsibility to oil all the bearings. The tendency to neglect oiling is particularly troublesome when the mill is operating three shifts. The spinner on one shift is inclined to think that the man on the last shift oiled the bearings and the man on the next shift will oil them again.

Of course, supervision is the answer to such neglect. But seeing that every spinner oils every hole is an almost impossible job. Oiling is done at odd times during the shift, and the fixer and supervisor do not have time to check on all the oiling.

I have found the following system useful.

We installed a buzzer that could be heard all over the spinning area. At a scheduled time during each shift, the buzzer is sounded and all mules are stopped for oiling. Every spinner was shown all the oil holes that he was to oil. During the stop-off for oiling, usually about ½ hr. after the beginning of the shift, the fixer watches the spinners to see that the oiling is done properly.

Oiling is scheduled so that every bearing is oiled at the proper time and every spinner does his amount of oiling. For example: Every Monday morning before the frames are started up, first-shift spinners oil the spindle steps. One Wednesday, during the stop-off time for oiling, second-shift spinners oil the steps again. The following Wednesday, the second shift does not oil the steps; they are oiled by third-shift spinners.

The oiling of steps is in addition to

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6	7	8	3rd 9	10	11	12
13	14	15	2nd 16	17	18	19
20	21	22	3rd 23	24	25	26
27	28					

***SPINDLE STEPS OF MULES** are oiled twice a week. The first shift oils them every Monday morning, and the second and third shifts alternate on Wednesdays. Assignments are marked for a full year on a calendar so that no confusion arises.*

the fast-motion oiling that must be done by each shift during the scheduled time. The spindle-step oiling is assigned the second and third shifts by alternating weeks for a whole calendar year, and the weeks are marked on a calendar. In this way, there is never any confusion as to which shift is to oil the steps on Wednesday of any particular week.

We have had this system in now for more than a year, and we have had no trouble as a result of improper oiling. *(K-1046)*

Plate-Glass Squares Show Printing-Color Defects

A print-color viewer made as shown in the accompanying sketch is a considerable help in rapidly determining the condition of a textile-printing color. The use of the viewer saves many machine stops due to printing-color trouble.

Because of the opaqueness of nearly all printing colors, it is almost impossible by sight alone to locate the following troubles:

Incomplete solution of dyestuffs.

Presence of insoluble foreign matter likely to clog or injure the printing rolls or screens.

Incorrect color strength.

Physical change of thickness.

Recrystallization of the chemical ingredients.

Uneven and incomplete reduction of indigoid vat dyes.

With the use of the color viewer shown here, these defects can be spotted at once because the viewer places a sample of the color so that it can be seen through easily.

The viewer consists basically of two squares of plate glass. These plates trap and hold the sample color and permit light penetration so that the sample can be adequately inspected.

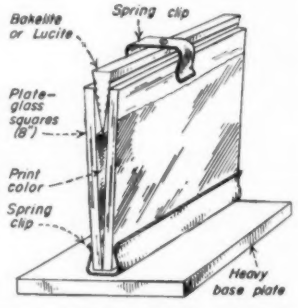
To construct a similar viewer, get two pieces of plate glass 8 in. square, a heavy wooden or metal base plate, one 8-in.-long spring clip, one short spring clip, and an 8-in.-long Bakelite or Lucite prism. Attach the long spring clip to the middle of the wooden or metal base, with the holding side up. The lower edges of the two glass plates are to fit into and be held by this clip.

Cut the prism on each side along its length with about four parallel lines deep enough to form nicks into which sides of the upper edges of the glass plates will fit. For convenience, these lines may be numbered 1, 2, 3, and 4. Attach the small spring clip to the back of the prism with a screw, as shown in the sketch.

The viewer is now ready to be used.

Apply a sample of the printing color to one of the glass plates. Place the lower edge of this plate against the lower edge of the other plate, to which no color has been applied. Now place the Bakelite or Lucite spacer prism between the upper edges of the plates, fitting the ends of the short spring clip securely over the edges of the plates. Slide the lower edges of the two plates into the long spring clip fastened to the base plate.

These positions of the plate-glass squares will trap a wedge-shaped film of printing color. The thickness of the film can be adjusted to the best thickness by raising or lowering the prism, which places the plate-glass squares closer together or farther apart. If the prism is raised and the plates are brought closer together, the film will be pressed thinner. If the prism is lowered and the plates are moved farther apart, the film, of course, will settle deeper into the wedge of space between the plates and become thicker. Adjustment should be made until good light penetration of the film is obtained.



***TEXTILE PRINTING COLOR** can be studied for defects with this viewer. A film of the color is trapped between the plate-glass squares, and its thickness is adjusted by the spacer at the top of the squares until light adequately penetrates the film.*

Once the correct film thickness is reached, the film can be seen through easily, and any of the faulty conditions mentioned can be noted. In particular, grit and recrystallized ingredients will show up well. The finest grit can be seen if the spacer prism is removed and the glass plates are placed together and moved back and forth.

To get the best results, I place the color viewer on a well-lighted window sill, with a sheet of white paper under the base. The paper is placed so that it extends well beyond the base toward the window. It reflects light well and forms a satisfactory source of illumination. *(K-1042) J. R. Stewart, Hamilton, Ontario, Canada*

Quiller Oil-Pan Level Controlled Through Drain

Oil dripping on the floor around a Leesona quilling machine can be more easily controlled by providing a good means for drawing off some of the oil when the pan gets too full. One way of providing such a means is to drill a hole in the under side of the pan and keep it stopped up with a wooden or hard-rubber plug.

When the oil in the pan almost reaches the overflow level, place a bucket under the plugged hole. Remove the plug and draw off some of the oil. When the oil level has dropped to a suitable point, replace the plug. *(K-1038)*

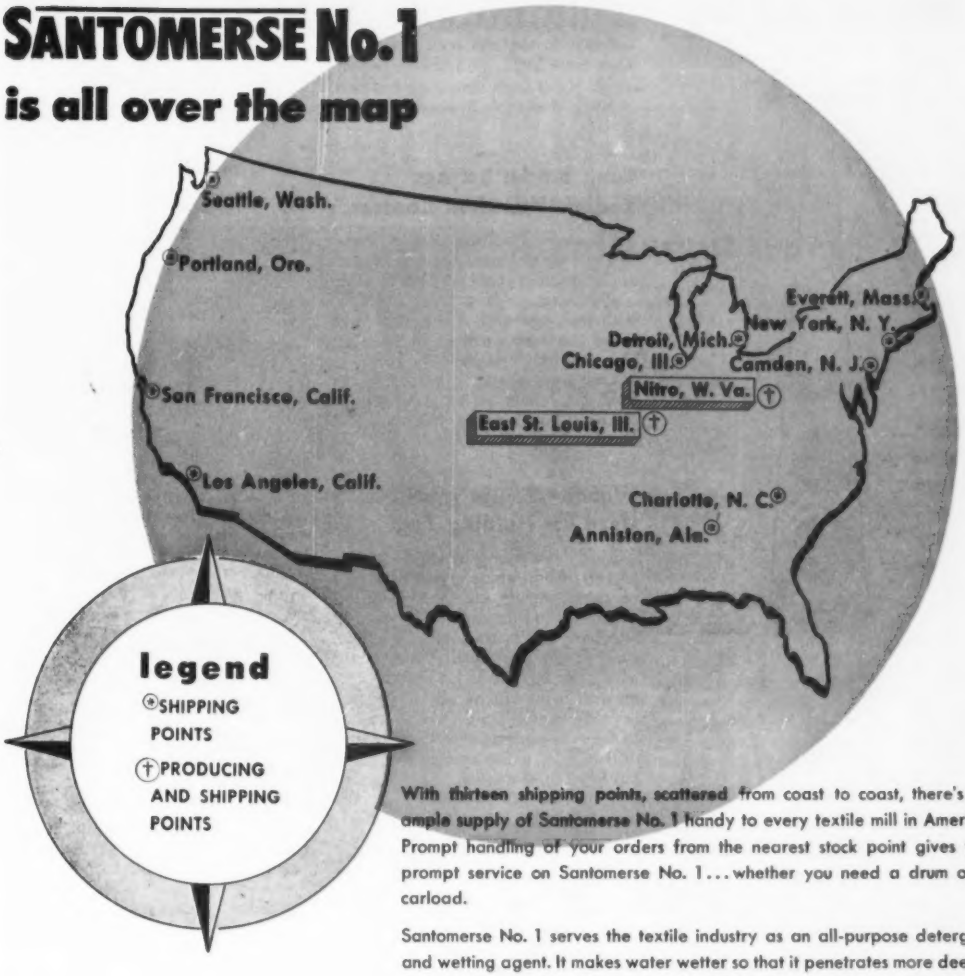
Tension Rods on Winder Stop Knitting-Yarn Defects

In knitting fine worsted full-fashioned hosiery, we found that softer-feeling hose could be obtained by knitting the two-ply yarn untwisted. We knitted the body of the hose from two cones, but the merino heeling and tipping yarns had to be doubled.

When the two plies of yarn were doubled on a winder, more room between the supply package and yarn guide was needed so that when it was necessary to knot the yarn the knots in the two plies could be spaced well apart. This type of doubling is usually done on tube winders; however, we wanted cone knitting packages rather than tube.

When we tried to double the yarns on cones we ran into trouble. When the traverse guide was at the base of the take-up cone, the speed of the cone was so great that extra tension was placed on the yarn. The result was that the take-up cone was built hard

SANTOMERSE No. 1
is all over the map



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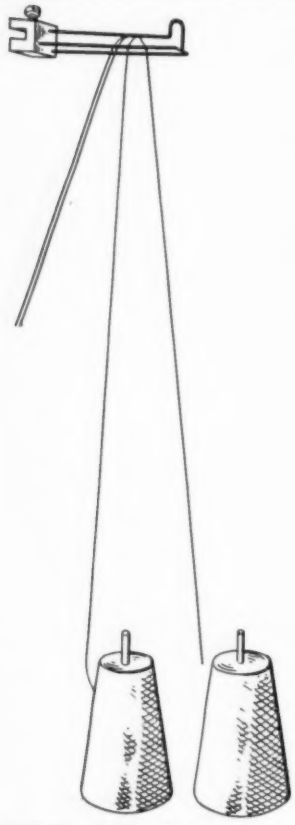


***WORSTED HOSIERY YARN** for fine full-fashioned hosiery was double plied onto cones on a winder. Trouble with winding tension and single-end breaks was encountered until three drag wires, placed as shown here, were installed.*

at the base and soft at the tip. At the knitting machine we ran into many single-ply breaks.

We set about trying to obtain a knitting supply cone of more uniform base-to-tip density. We substituted single wires for the nickel-plated rolls over which the yarn pulled. These wires stopped the uneven tension but did not stop the single-ply breaks.

We put on three wires instead of one, as shown in the sketch. The turn that the yarn made between the supply package and take-up package was then made gradually in three turns instead of abruptly in one. The friction between the yarn and wire was considerably lessened, and we seldom found any of the single-ply breaks that had been giving us trouble.

The three wires were pressed into a small cast-iron block that was hooked over the upper rod of the winder and fastened to the rod with a setscrew. They were highly polished to prevent rough places from damaging the yarn. *(K-904)* Walter A. Simond, Franklin, N. H.

Long Binder Springs Reduce Vibration Chatter

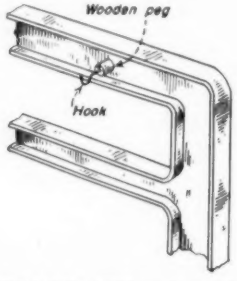
On some multiple-shuttle looms that use drop boxes, the box binders are held under slight tension by short binder springs. If a loom equipped with such springs is operated at high speed, the binders may begin to chatter as a result of vibration in the loom.

One way to stop the chatter and hold the binder steady is to replace the short binder spring with one about twice as long. *(K-1037)*

Wooden Peg in Machine Used for Holding Tag

Most mills keep style-information tags on each machine so that basic data on stock, gearing, etc. can be read at a glance. There are many ways of attaching the cards to the machine, such as making metal brackets into which the tags are slid, tying the tags on with twine or wire, etc.

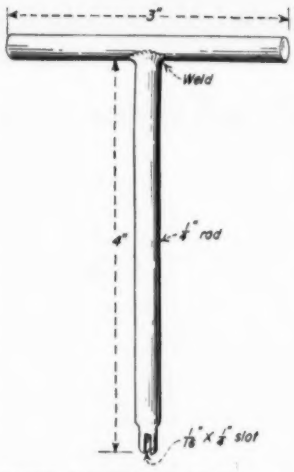
One convenient way to fasten a tag to the cast-iron side of a machine is to drill a hole in the machine side and tap in a round wooden peg. A screw, nail, or hook can be inserted into the peg and the tag hung on it. *(K-1034)* H. E. Wenrich, Berwick, Pa.



***IDENTIFICATION TAGS** can be attached to a cast-iron machine side by drilling a hole, placing a wooden peg in the hole, and inserting a hook into the peg. The tag can be hung on the hook.*

Warper-Comb Teeth Straightened With Tool

A 15¢ tool that does a better job of straightening out dents in a warper comb or a loom reed than a $5 pair of reed pliers is shown in the accompanying sketch. I developed this tool



***DENTED WARPER-COMB TEETH** or loom reeds can be quickly and easily straightened with this tool. The size shown here is for warper combs. For use on loom reeds, the tool should be made of 3/16-in. rod and have a 1/32x1/8-in. slot. Cost of material for making the tool is about 15¢.*

myself, and we have been using it with excellent results in the mill where I work.

As shown in the sketch, the tool is simply two pieces of ¼-in. cold-rolled-steel or brass rods welded together in the shape of a T. The top crosspiece is 3 in. long and the upright piece is 4 in. long.

The lower end of the 4-in. upright is machined off to 1/16 in., and a slot 1/8 in. wide and ¼ in. deep is cut as shown in the sketch. The slot must be sanded off and polished well with crocus cloth to make it perfectly smooth so that it will not score the warper-comb tooth.

For use on a loom reed, the tool should be made of 3/16-in. rod instead of ¼ in. The slot in the lower end should be 3/32 in. wide and ⅛ in. deep. *(K-1050)* W. H. Gerrells, Danville, Va.

Beaming Instructions Written for Each Set

One mill found that verbal instructions were not adequate for preventing mix-ups at the beamers. Although careful instructions were given as to the supply yarn and number of beams in each set, beamers and rackers often mixed yarn and ran a wrong number of beams.

The difficulty was solved by hanging a small slate blackboard on the beamer creel. On the slate is written the lot number of the yarn to be used and the number of beams required. Creelers

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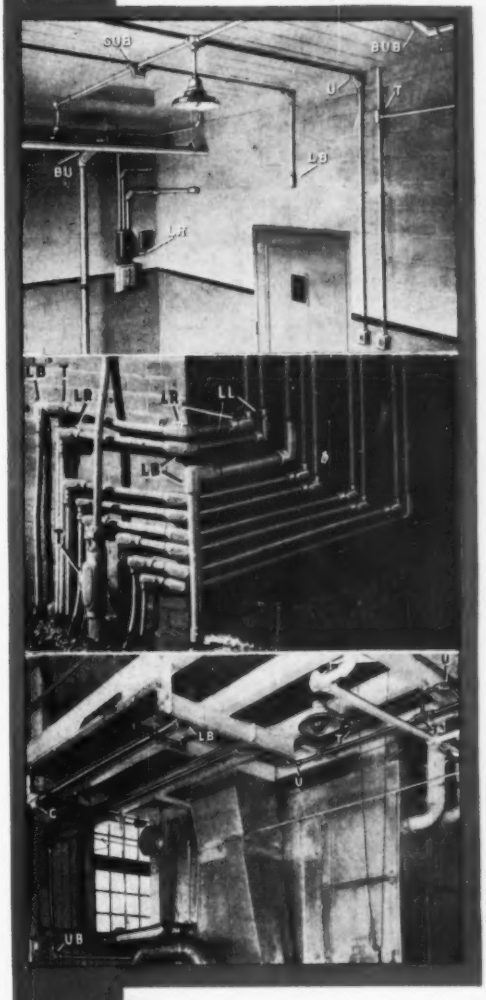

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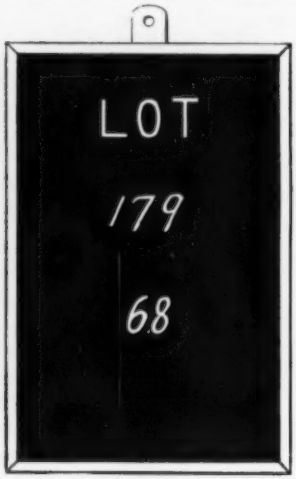


YARN AND BEAM MIX-UPS are avoided in one mill by the use of instructions written on a small blackboard and placed on the beamer creel. Creelers and beamers are instructed not to proceed without such instructions.

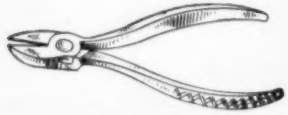
and beamers are required to go exactly by the written instructions on the slate.

When a new set is started, the production foreman removes the old slate and hangs up a new one on which is listed the yarn and beam data for the new set. Beamers and creelers are instructed never to proceed without definite, written instructions. *(K-1035)*

Cut Damaged Heddles With Small Wire Cutters

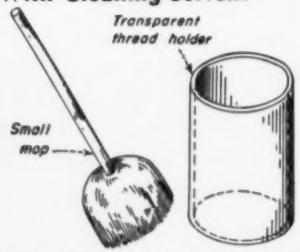
It is often necessary to cut damaged steel heddles to remove them from a harness. The tool ordinarily used for snipping off a heddle is a pair of scissors, but the heddle will dull the scissors so much that they are not much good for cutting yarn. If heddles are cut frequently, the scissors must be resharpened too often.

Why not use a pair of wire cutters on the heddles? A 6-in. pair of cutters are easy to carry and will last for years. They are easy to handle and make a quick, neat cut. *(K-1033)*



DAMAGED STEEL HEDDLES can be quickly and easily cut with a pair of 6-in. wire cutters. The use of this tool will save weavers' scissors for cutting yarn.

Clean Loom Thread Holder With Cleaning Solvent



THE THREAD HOLDER on a multiple-shuttle loom gets coated inside with size and dirt. Besides looking bad, the dirty walls of the holder hide the yarn the holder contains.

A quick, easy way to clean the holder is to make two small mops by tying loose ends of yarn on small sticks. Dip one mop in a cleaning solvent and mop out the holder. Dry the holder with the second mop. (K-1040)

Knitters' Style Tags Are Mounted on Machine

Knitters' style tags can be kept in a place convenient to them by the use of the tag holder shown in the accompanying photograph. The holder is made for mounting on a full-fashioned hosiery machine.

The crossbar and brackets are made of $\frac{1}{4}$x$\frac{3}{4}$-in. flat aluminum stock, and the brackets attached to the crossbar by screws. Screw holes are drilled in the top sides of the brackets so that the brackets can be mounted on the machine.

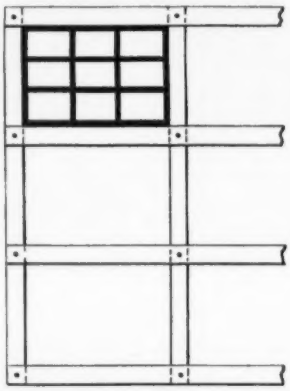
The holder shown was made as follows:

Five $\frac{3}{16}$-in. holes were drilled about $2\frac{1}{2}$ in. apart in the crossbar. About 6-in. lengths of $\frac{3}{16}$-in. welding rod were placed in the holes and bradded so that they would not slip out. The other ends of the welding rods were bent upward slightly to keep the style tags from working off the rods.

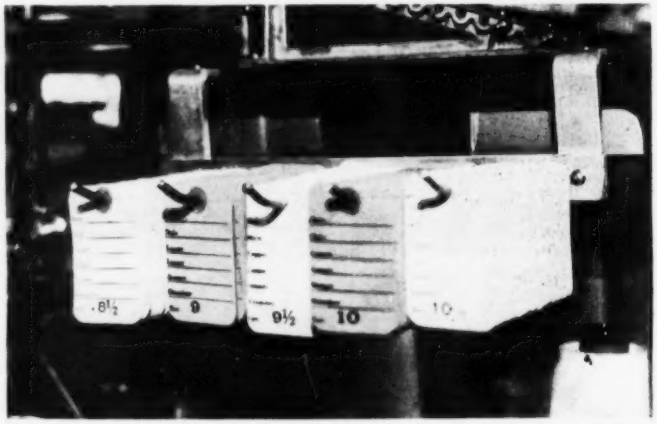
For easy identification, different-colored tags are used for the various sizes. The tags shown in the photograph are colored as follows:

Size $8\frac{1}{2}$—red
Size 9 —blue
Size $9\frac{1}{2}$—white
Size 10 —green
Size $10\frac{1}{2}$—yellow. *(K-1041)*

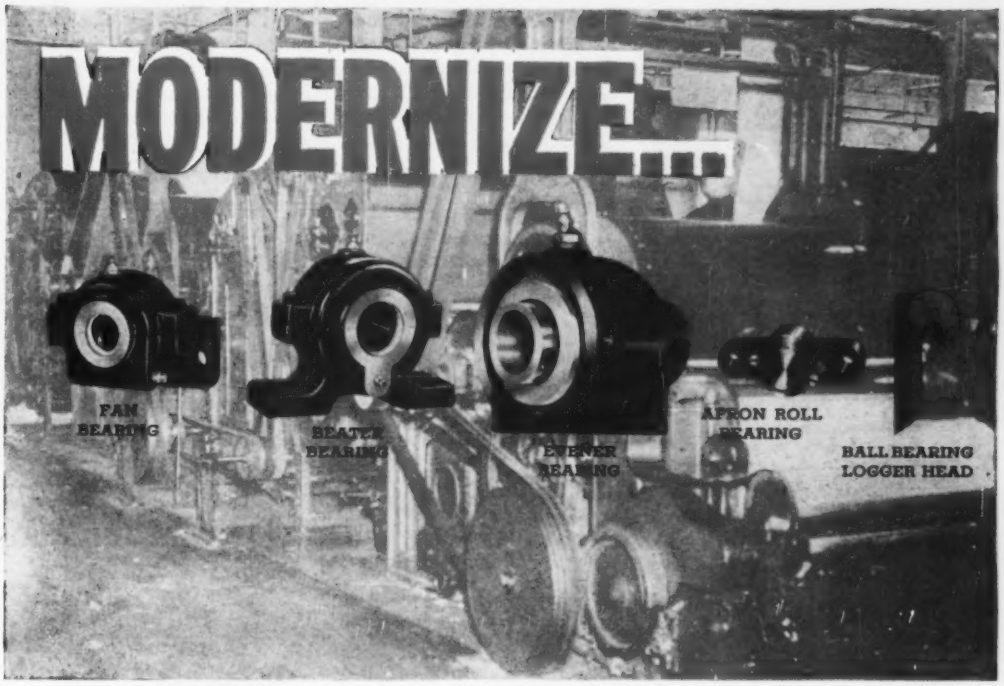
Small Storage Spaces Accommodate Small Parts



STORAGE OF SMALL PARTS is more orderly if special sections are made in the storage shelves. As shown here, an ordinary storage section is divided into nine small compartments for keeping small parts separated. (K-940) Wm. H. Mullen, Quincy, Mass.



KNITTERS' TAGS used for identifying gray full-fashioned hosiery are mounted on the knitting machine by means of the holder shown here. Different-colored tags are used for each size of hosiery.



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Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Cotton Mills Should Plot Fiber-Analysis Graphs

Carter's article on fiber sorters [TW,Dec.'48,p.109] certainly stirred up some interesting discussion among the mill men and laboratory technicians. Most interesting were the methods used for estimating fiber-length values after the fibers were laid down in the completed array. Another concern was the amount of time required to collect, measure, weigh, and estimate values for each length group. This factor limited the number of observations that could be made in a given period of time.

Standard specifications for determining fiber-length values call for fiber placement in groups of 1/8-in. intervals, with the midpoint of each interval stated in 16ths of an inch to be taken as the group length. Measurements to 1/64 in. are required for those fibers whose lengths come close to the dividing line between the group lengths.

Claims are made that the 1/8-in. interval appeared too large for precise results and probably accounted for the fact that, in many cases, consecutive tests on the same specimen by different operators failed to give results within reasonable percentage variation. Some fibers in each length group could be 1/16 in. shorter or longer than their designated group length. For 1-in. fibers, the percentage of error would amount to 6%; on shorter fibers, the percentage of error would be larger.

The most favored formula for estimating mean fiber length of a specimen avoided the use of both unit fiber weight and fiber number in each length group. The sum of the products of each length group (in 16ths of an inch) multiplied by its weight (in milligrams) is divided by the total weight of the specimen. This calculation gives the average or mean length in 16ths and is converted to decimal inches by the multiplier, 0.0625.

GRAPHIC METHODS. Three methods show the results of fiber-length analysis graphically.

1. Fiber-length-distribution arrays by percentages in which the percentage weight of each fiber-length group is plotted separately.

2. Cumulative percentage-weight arrays in which the percentage-weight value of each group is added to those of the preceding longer groups and then plotted in a continuous graph from maximum to minimum lengths.

3. Cumulative fiber-frequency graph in which the fiber frequency is plotted in uniform order of length from maximum to minimum with the same number of fibers estimated per unit length of the base line.

The third method is claimed to be the only one that shows the relative number of each length of fibers in a section of yarn; and for this reason it is a better indicator of potential yarn strength.

Any fiber-array technique that results in the laying down of approximately the same number of fibers per unit length of the base line will simplify the methods of analysis. It would dispense with the work of grouping, measuring, and weighing of each group; it would reduce the required calculations and furnish a diagram array showing actual fiber lengths. Possible errors caused by the slight variations in the number of fibers in each unit section would probably not exceed the present unavoidable errors caused by the extensive grouping, measuring, weighing and computing technique.

Cumulative-weight-percentage fiber diagrams are often mistaken for true fiber-length-array diagrams. An example will show the difference in weight

(Continued on page 188)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

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But maintenance cleaning techniques cannot be permitted to rest on past accomplishments. And while more and more mills are standardizing on Oakite methods, the Oakite Research Staff is even today creating and perfecting tomorrow's methods to aid the industry find improved work-saving and cost-saving ways to handle its multitude of equipment maintenance problems. Oakite Products, Inc., 21A Thames St., New York 6, N. Y.

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Round Table

(Continued)

values and relative number of fibers. Three milligrams of 1-in. fiber contains about 600 fibers (at 5 mg. per fiber length); while three milligrams of ½-in. fiber contains about 1,200 fibers (at 2.5 mg. per fiber). Both would have the same percentage value on the cumulative-weight percent diagram. But, on the fiber-length-array diagram that is based on the actual number of fibers, the value of the ½-in. fiber division would be twice that of the 1-in. fiber for the same weight, thus showing the relative number of fibers of each length regardless of their unit weights.

Fiber-array technique is growing constantly, and I would appreciate further discussion by TW and its interested readers. (R-453, Utica, N. Y.)

Rate-of-Rise Details Supplied by Mill

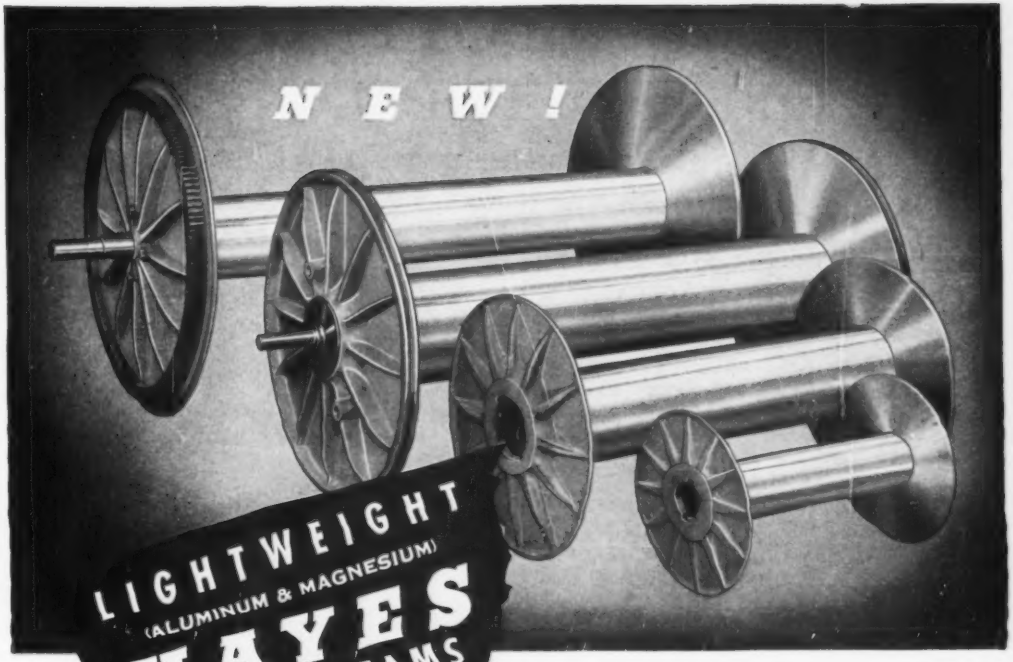
It was my good fortune to have the pleasure of reading the article you recently published regarding the "rate-of-rise" sprinkler installation at Waldensian Hosiery Mills. As this article is so technically accurate, we are ordering reprints. We would appreciate your advice as to the source of this article. We are especially appreciative of this type of an article since the technical correctness of the writeup of the sprinkler system is not usually found. (R-454) E. B. Rumble, Manager, Fire-Fog Dept., Automatic Sprinkler Corp. of America, Youngstown, Ohio.

(The mill itself was the source of the article. We believe we are the first technical magazine to report an installation of the "rate-of-rise" sprinkler method, though investigation now shows that "Reader's Digest" carried a general description of non-textile wartime installations of the system—Editor)

Engineers Must Consider The Human Factor

A generation ago, something about "efficiency experts" struck the funny bone of the American people to such an extent that jokes and stories about them blossomed on every side. Now the time has arrived when management in even the smallest mill has stopped laughing at these men, and has started to take them seriously.

Of course, the business engineer of today differs in many ways from the efficiency expert of 20 or 25 years ago. He has learned much both from accumulated experience and from advances made by all contributing



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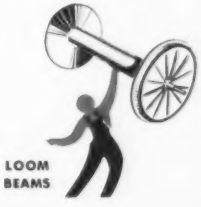
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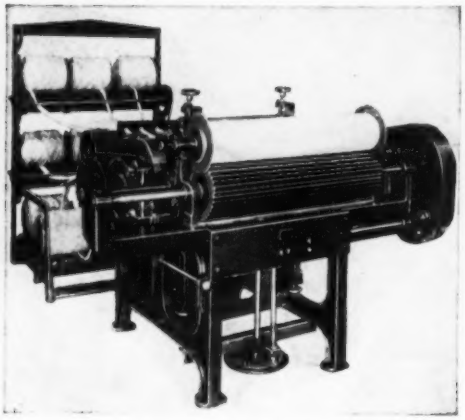
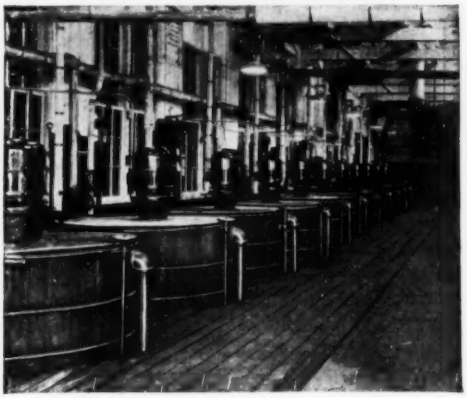
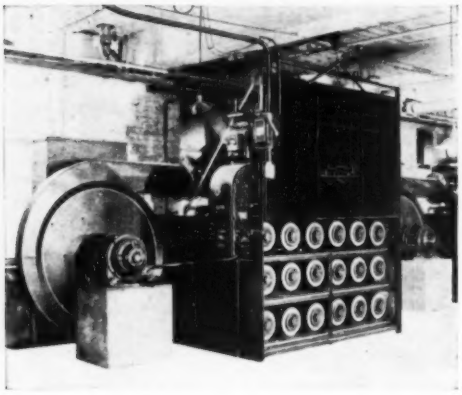


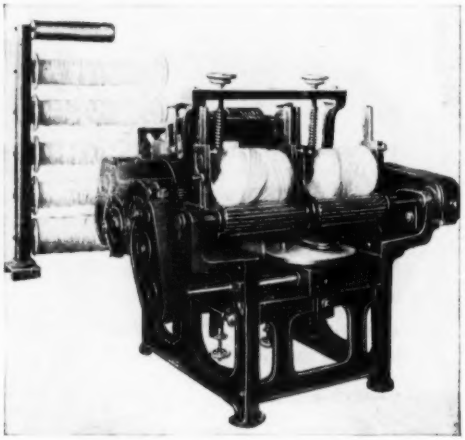
(1) Abbott Dye Spools Wound from Top on Special Spooling Gill



(2) Then, Dyed in Abbott Stainless Steel Dye Kettles



(3) and Dried in Abbott 18-spool Dryer



(4) Then, wound from Dye Spools on the Finishing Gill

No backwashing or Recombing Required

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MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. "The Properties and Applications of Ultramarine Blue" is the title of a technical bulletin prepared by Calco Chemical Div., American Cyanamid Co. The paper discusses history of the pigment as well as chemical and physical properties of the dye.

2. Hosiery mill design as applied in the construction of a new mill in Tennessee is the subject of a folder released by Lockwood Greene Engineers, Inc. Layout, construction, ventilation, and power are discussed and illustrated.

3. The ring doubling frame for economical production of regular twist at high speed is featured in a bulletin from Platt Bros., Ltd. A double-page expanded sketch explains its functioning.

4. Cloth-opening equipment of nine different types is discussed in a folder issued by Mount Hope Machinery Co. An automatic turntable detwister is included among several illustrations.

5. Cotton-warp sizing is the subject of a booklet prepared by Hart Products Corp. The 45-page publication covers starches, gums, pastes, films, softeners, metallic salts, and allied subjects in detail.

6. Aluminum in the textile industry is discussed in a bulletin issued by Reynolds Metals Co. Several applications and advantages are listed along with eight tables of physical properties of aluminum.

7. Moisture-content control by electronic means is featured in a folder issued by Barber-Colman Co. Details of operation and several sketches are included.

8. A continuous viscosimeter for viscosity measurement and automatic viscosity control is the subject of a folder prepared by Fischer & Porter Co. A good cross-sectional drawing of the instrument is included.

9. Sewing machines for split-tube border and collarette attaching are described and illustrated in a bulletin published by Willcox & Gibbs Sewing Machine Co.

10. Small-diameter circular knitting machines are described in a recent folder issued by H. Brinton Co. Articles made on the machines are pictured on the back cover.

11. A ball-bearing slasher-creel mounting to take the friction load from the warp and thereby give more uniform tension is the subject of a leaflet issued by Aldrich Machine Works.

12. A covering for take-up rolls which is said to give the same gripping power for a long period is described in a bulletin from Gates Rubber Co.

13. Box and label printing for the textile industry is the subject of a folder issued by Markem Machine Co. Three machine models are illustrated and described.

14. The automatic reaching-in machine for drawing-in warps up to 3,000 ends an hour is discussed in a folder prepared by Zellweger Ltd. A model for cotton, wool, and linen is pictured along with a model for any warp material.

15. A new conical opener for dye kettles, continuous-dyeing machines, open soapers, dry cans, etc. is the feature of a bulletin issued by Birch Brothers, Inc.

16. Precision jack bearings for better spinning and twisting performance are described in a bulletin available from Precision Gear & Machine Co.

17. A three-position-wheel knitting machine which permits changing from fancy-wheel work to plain jersey automatically is featured in a folder from H. Brinton Co.

18. A textile psychrometer for instant determination of moisture content in textiles is the subject of a bulletin issued by Kearny Mfg. Co., Inc. A list of accessories for special jobs is also given.

19. The two-way package-drying machine is discussed and its specifications are given in a folder published by Smith, Drum & Co. Several other items in the company's lines are also pictured.

20. Light-metal beams of aluminum or magnesium are described in a folder from Milton Machine Works. Tricot beams and special beams are featured.

21. Extractors for the textile industry are the subject of a booklet issued by American Machine & Metals, Inc. Both the center-slung type and the newer "Suprex" type are discussed in detail. An unloading extractor and the "Minute Man" are also described.

22. Textile brushes for all uses are discussed in a folder published by M. W.

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McGraw-Hill Publishing Co., Inc.

Jenkins' Sons, Inc. A sketch shows how the firm's "Metlkor" brushes are manufactured.

22. Loom motors of completely specialized design are described in a folder made available by Westinghouse Electric Corp. The folder lists seven ways in which this motor differs from ordinary motors.

24. From 70 to 90% annual return on the cost of a heat exchanger is claimed in a bulletin issued by The Sims Co. The method reclaims heat from sewer water over 120° F.

25. Aluminum trucks for the textile industry are pictured and described in a folder published by De Kalb Metal Fabrications Co. Advantages due to decreased weight, elimination of rust, and durability are discussed.

26. Ball-bearing tension pulleys for improved spinning-frame performance are described in a folder issued by SKF Industries, Inc. Supporting blocks for the three main types of frame are pictured.

27. Moving cans can be vastly different under the paint according to a bulletin prepared by Fibre Specialty Mfg. Co. Three styles are pictured.

28. Fluorescent fixtures designed to withstand textile-mill humidity are featured in a bulletin from Wheeler Reflector Co. Specifications of four types are listed.

29. Natural and synthetic rubber products for textile machinery are described in a brochure prepared by Dayton Rubber Mfg. Co. There is a good section on weave-room products.

30. A tension compensator for accurate tensioning in warping, winding, plying, etc. is the subject of a folder issued by Walter Kidde & Co. Inc. Constant tension with any yarn is claimed to be possible with the device.

31. Frictionless bearings for cap bars and saddles for spinning cotton, wool, or synthetics are described in a folder prepared by Dixon Lubricating Saddle Co. Advantages claimed include a 10¢ per spindle saving each year in a 20,000-spindle mill.

32. "Twistainer" extractors for installations where loading the trucks away from the extractor can be advantageous are described in a folder published by Fletcher Works.

33. Plastic spindle adapters for cap-driven bobbins are described in a bulletin made available by National Plastics, Inc. The light weight of the adapter is said to lengthen bolster life.

34. Getting the heat out of your steam-heated drying cylinders is accomplished by using the Sarco system, according to a folder prepared by Sarco Co., Inc. The folder outlines several possible conditions that lead to inefficient drying.

35. Tapered-paper warp-spinning bobbins are discussed and a history of their development given in an article available from American Paper Tube Co. Details of the "New Seat" spindle fit are included.

36. An all-purpose, all-aluminum section beam designed for present and future fine-denier synthetic yarns is the subject of a bulletin published by Hubbard Spool Co.

37. Silk- and rayon-mill supplies are listed in a folder issued by Armstrong Cork Co. Roll coverings, rolls, cots, spindle-head covers, roll-shop equipment, and other supplies are featured.

38. Do you know your roll-surface temperature? A fast and accurate method for calender rolls, dryer rolls, and other moving surfaces used in processing is described in a bulletin published by The Foxboro Co.

39. Practical filling straightening by use of the reflected-light principle is discussed in a folder by Winsor & Jerauld Mfg. Co., Inc. A brief explanation of the theory is interesting.

40. Magnesium and aluminum specialties for the textile industry are described in a brochure prepared by Hayes Industries, Inc. Section beams, cloth rolls, and tricot sectional spools are featured.

41. Eliminate scrubbing by progressive floor maintenance and you will make floors brighter and prevent accidents, according to a bulletin issued by G. H. Tennant Co.

42. A catalog of textile equipment has been made available by Hunt Machine Works, Inc. Spreaders, size kettles, pumps, and motors are made by the company.

43. Stop sloughing off—with Precision non-sloughing cams, according to a bulletin released by Precision Gear & Machine Co., Inc.

44. Rings for twisting and spinning are described in a folder prepared by Ragan Ring Co. A cross-sectional illustration shows the special Ragan construction.

45. An adjustable intermittent humidity controller which is said to insure close control of relative humidity without atomizer-head "wet-down" is described in a folder published by Buensod-Stacey, Inc.

46. "Stripes and Plaid Pay with Model SA and SA-ROF," is the title of the new booklet describing the novel 4-color striper knitting machines now being built by Supreme Knitting Machine Co., Inc.

47. Lug straps with the strength to give years of service on the heaviest looms are described in a bulletin issued by Gates Rubber Co.

TO GET MORE INFORMATION

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Water repellency *plus* superior resistance to water borne stain are both obtained through the use of Cyanamid's PARAMUL* 115 Water Repellent in a wide variety of fabrics—cottons, rayons, linens and woolens — for outerwear and equipment purposes.

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FIRE EXTINGUISHING EQUIPMENT

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This small, compact extinguisher is particularly adapted for protecting many lint fire hazards common to the textile industry . . . cards, twisters, looms, etc.

Many mills, equipped with Ansul Dry Chemical Fire Extinguishers, have saved thousands of dollars by stopping lint fires FASTER without damage to delicate machinery or to the product manufactured.

For picker rooms, opener rooms and other locations where large masses of cotton are handled, the larger capacity Ansul 20 and Ansul 30 Dry Chemical Fire Extinguishers are recommended.

All Ansul Dry Chemical Fire Extinguishers are approved for use on fires involving live electrical equipment.

Ask for your copy of File No. 214. You will receive factual data on how Ansul Dry Chemical Fire Extinguishers will reduce fire losses in your mill.

Model 20 Model 30

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS IN ALL PRINCIPAL CITIES

Round Table

(Continued)

branches of science during that time. Most important, instead of being the know-it-all of yesterday, he is likely to be as eager to learn as to teach.

What can be done to improve the relationship between business engineers and mill management? Two major problems still exist. One is the fault of the experts, the other of the industrialist himself.

Business engineers in the past have been so concerned with figures, they have failed to make allowance for human shortcomings, differences in personalities, and the feelings of workers. So management may be excused if its reaction has been that it will get along without the advice of the experts as long as they hold to this attitude.

But the executive should review his own ideas, too. In his desire for quick results, he may practically force the business engineer into doing the very things with which he later finds fault! A gradual improvement in the production, finances, and competitive standing of the mill should be considered as satisfactory results. If management demands quick increases in profit or greatly stepped-up production, and wants all this on short notice, then it must expect methods which upset past schedules and procedures.

Some time ago, we were discussing business engineers with an executive. He suggested that he could not imagine them finding and correcting conditions which capable management could not see and handle for itself. Yet right in his own organization, even the most casual observer with an "outsider's viewpoint" could have made worth-while suggestions. There is no telling what a well-trained business engineer might have done—nor is there much chance he will ever get the opportunity to try!

Industry has had many a laugh at the expense of the "efficiency expert" but the time is here for making more practical and widespread use of his modern brother, the business engineer. *(R-455)*

Japanese Textile Man Gets First T. W. Since 1940

Thank you for sending us the April issue of TEXTILE WORLD. We have been unable to obtain the magazine here [Japan] since 1940. We are glad to find it filled with an abundance of interesting things and are glad to note that your machinery builders and textile suppliers are enjoying a prosperous business as before the war. *(R437) Yasuo Haeno, Shioe, Amagasaki, Japan.*

NEW Westinghouse
85-WATT FLUORESCENT LAMP EQUALS OUTPUT OF 100-WATT LAMP

USE OF KRYPTON GAS INCREASES EFFICIENCY 17%; NEW LAMP OPERATES IN PRESENT 100-WATT FIXTURES

This new Westinghouse lamp produces 49.5 lumens per watt, as compared with 42 lumens per watt for the 100-watt lamp which it replaces. The new unit has an average life of 6,500 hours at 12 hours per start.

The 85-watt fluorescent lamp is five feet long, 2⅛ inches in diameter, and offered in five hues of white light—daylight, 4500 degree white, standard white, soft white, and the new warm white. For more information about this new money-saving lamp, call your Westinghouse Lamp Distributor or write to Lamp Division, Westinghouse Electric Corporation, Bloomfield, New Jersey.

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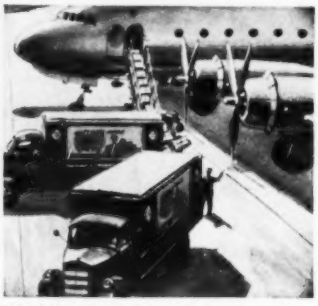
the name you know in LAMPS

$5.07 saved a contract ...and a man's business

Special switches were needed to complete an electrical instrument contract. Late delivery of finished items would kill chances of future orders and lay off men. Switches were 1100 miles away, but Air Express delivered the 15-lb. package at 3 A.M. — 8 hours after pick-up. Cost, only $5.07. Air Express now used regularly. Keeps down inventory, improves customer service by early delivery.

Low as $5.07 was, remember Air Express rate *included* door-to-door service, receipt for shipment and more protection. It's the world's fastest shipping service that *every* business uses with profit.



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Questions AND Answers

Card-Clothing Wire Rusts From Humidity

Technical Editor:

At times it is necessary for us to shut down a card for some length of time. We are concerned about the rusting that takes place on the card wire because of the high humidity in the card room necessary to operate the cards that remain in production. We usually carry 75% relative humidity. Can you tell us of a method for protecting card clothing during idle periods of the cards? (9282)

Nearly all card rooms have had this problem at one time or another. There seem to be two methods of protecting clothing wire against rusting. They both hinge on protecting the wire against moisture by placing an absorbent material in contact with the wire.

There are disadvantages to both methods, and perhaps variations on one or both of them might be worked out to suit your conditions better.

1. One method is to avoid stripping the cards for some time before they are shut down. Leave the stripping waste imbedded in the clothing to absorb the humidity that reaches it. Keep the cards covered with sheeting while they are shut down.

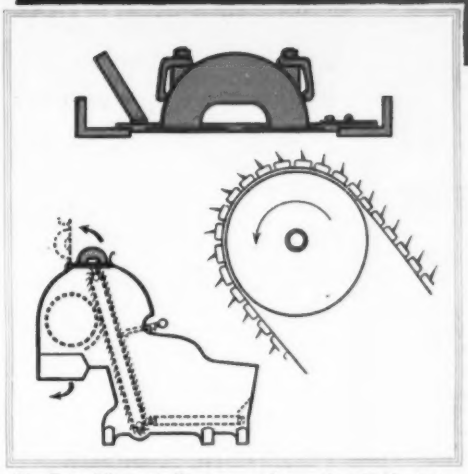
Once a week, remove the sheeting cover and start up each card. Let it run 10 or 15 min. without stock in it. If too much of the imbedded waste comes off, run enough waste or good stock through the card to replace the lost imbedded waste.

2. The second method is to use the imbedded strip waste and Spanish whiting (a calcium carbonate complex) to absorb the moisture. Dust the lickerin, cylinder, doffer, and flats with the whiting; and cover the flats and doffer with strips. It would be well to cover the backs of the flats that are down against the cylinder and also stop up the spaces between the cylinder housing and the card sides and arches.

The purpose of the strips is to minimize the amount of moisture that

Eriez Magnets give more efficient and simplified MAGNETIC PROTECTION

1. Supporting angle iron.
2. Magnetic Separator in working position.
3. Magnetic Separator swung up for cleaning.
4. Handle for swinging back hinged Magnetic Separator.



The Eriez Magnetic Separator, shown above, is built for suspension over spiked apron feeders. This application assures superior cleaning results because the magnet is operating at a point where materials are opened and traveling at low speeds. Eriez Magnetic separation is simple. As material is conveyed to the top of the apron, it passes into the magnetic field where tramp iron is removed. Eriez magnets can be built any size required in order to fit existing or new machinery.

POSITIVE protection from fires and machinery damage caused by tramp iron is provided when Eriez non-electric permanent magnetic separators are installed in textile processing lines. The Eriez magnet is simple, requires no maintenance other than cleaning of collected trash. It is easily understood, maintained and installed by ordinary labor. There is no operating cost . . . The Eriez is light in weight, extremely flexible in design and economical in cost. It presents no additional fire hazard of its own to the process protected. The magnetic strength of Eriez Magnets does not diminish. It is permanent—the power is always there. No chance of electrical failure or human forgetfulness. Eriez Non-Electric Permanent Magnets are effective in removing Tramp Iron from all types of fibers. Submit your tramp iron removal problems to us, we will be glad to help in their solution.

Please send bulletin No. 104A and the following: TW-2

Data on Eriez Magnets for:

☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor

☐ Pneumatic Conveyor ☐ Equipment on Processing Machines

Name.....

Address..... City..... State.....

● *When It's Magnetic Protection . . . See Eriez First*

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501 East 12th St., Erie, Pa.

1. Degree of Hardness Desired ... Plus Absolute Uniformity

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Sound reasons, all, for specifying and using Crabb Pins and Lags.

Hardness and uniformity of Crabb Pins is produced by the new method of micromax heat-treating equipment . . . while new methods of polishing and etching gives any desired surface.

Crabb Pins are available for the job you require of them: to meet special conditions such as BREAKING but not BENDING, and vice versa.

We also offer you our Technical Staff of highly trained men to consult with you regarding any operating problems.

Our items include *Pins and Lags, Cylinders, Combs and Hackles.*

Write us for quotations on any of these . . . or for us to call on you. Quick delivery of all items.

William Crabb and Company

301 Third Ave., Newark, N. J.

Questions and Answers

reaches the clothing wire. When you are ready to start up the card again, remove the strips and strip the card to remove the Spanish whiting.

There may be other desiccants as good as, or better than, Spanish whiting for absorbing moisture. Those derived from silica are used rather widely. They absorb large quantities of moisture, and when they reach the saturation point they can be heated to drive off the moisture and used again. Of course, in this particular application, this property of an absorbing agent would be of no use to you.

Yarn-Conditioning Machine Replaces Old Steam Room

Technical Editor:

We understand that all cotton-yarn mills spinning yarn for sale condition the yarn before it is shipped to bring the weight of the yarn up to the proper conditioned weight.

We know there are several methods of doing this conditioning. Can you give us any information as to what is considered the best method? (9283)

The old way of conditioning cotton sales yarn was to store it in a heavily humidified room or a steam room. This method was effective, since it brought the yarn up to the desired moisture content; but it was slow and expensive.

Usually, the yarn had to be packed by hand in a wooden-slat truck, pushed into the steam or humidified room, and covered with waterproof paper to keep it from being damaged by water "wetting down" in the room. The yarn usually remained in the room overnight, or at least several hours. It was then hauled out again and unpacked from the conditioning truck.

Modern practice is to use a conditioning machine in which the yarn is adequately conditioned in a matter of seconds. The operation can go on continuously. Yarn is dumped onto a mechanical conveyor, which carries it into the conditioning chamber of the machine. A cold-water-chemical conditioning solution is sprayed over it, and it is delivered from the machine into a doff or yarn box. A third method is to use a controlled steam box.

300-den. Rayon Filling Causes Loom Stops

Technical Editor:

We are weaving a cloth that has a cotton warp and 300-den. rayon filling. The cloth is 70 in. wide. Only one shuttle is used. Our looms are Draper automatic,

ALL PURPOSE-ALL ALUMINUM SECTION BEAM

30" HEAD 12" BARREL

30"

LOW COST!!

DELIVERY 90 DAYS

REMOVABLE HEADS

Both Heads can be removed in a matter of minutes in case of accidental damage allowing low cost on replacement of parts.

HIGH STRENGTH HEADS: ..... to withstand terrific pressures exerted by *all* types of fine denier synthetic yarns when warped to full capacity.

BALANCED: ..... for high speed uniform warping.

POLISHED FINISH: ..... accurately machined and polished for yarn protection and smooth operation at high speeds.

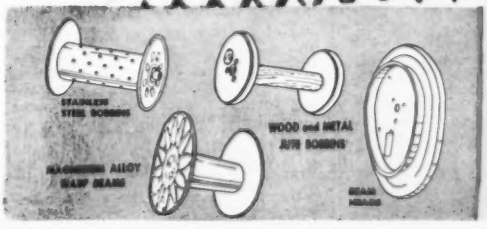
REMOVABLE SHAFTS: specially designed journals.

TESTED AND APPROVED: ..... by several of the largest synthetic yarn manufacturers and *now in use.*

HUBBARD Presents to You the new aluminum *all purpose* beam *of the future*

Designed for present *and future* fine denier synthetic yarns

HUBBARD SPOOL COMPANY
1626 Carroll Avenue
Chicago 12, Illinois



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AS the air from roof or ceiling areas is passed through the heating element of a Wing Revolving Unit Heater and projected downward through discharge outlets that slowly revolve, the heated air is not delivered to the working area in single-direction blasts, but in moving air-streams that sweep slowly through 360 degrees, covering successively every direction. The heated air moves around and under obstructions reaching to walls and remote corners. Every part of the plant is thus kept at an invigorating comfortable temperature.

L. J. Wing Mfg. Co. 138 West 14th Street, New York 11, N. Y.
Factories: Newark, N. J. and Montreal, Canada

Wing

Revolving UNIT HEATERS

Questions and Answers

(Continued)

with the filling stop motion on one side only.

We are having a great deal of trouble with broken picks and mispicks, most of which are not caused at the time of the bobbin change. The bobbins are 7¼ in. long, and the shuttle has an inside length of 8¼ in.

The writer believes that the filling is being broken when it is whipped around the bobbin and comes into contact with the fur of the shuttle. We have made many experiments and changes in the position, quality, and quantity of the fur. We have also used, unsuccessfully, a brush or bristles in different positions. Our bobbins are all in good condition. Our shuttles are equipped with one-pick tension. The breaks are not caused by loose quilling or too little yarn on bunches.

Can you give us any information on how to correct our trouble? (9281)

Usually, the side filling stop motion cases more broken picks than the center stop motion. The mispicks are probably caused by filling breaks that occur at the selvage and permit the yarn to be trapped at the edge of the cloth as the loom continues to weave. This defect is quite common to the side stop motion when yarns are the source of considerable loom trouble.

As there is no way to stop the loom on the exact pick when some of the breaks occur, you can combat your trouble only by reducing the chances for such breaks to the minimum. The heavy filling you are running should not prove too difficult to handle. The 5-turn, 300-den. yarn is less troublesome than the same yarn number with fewer turns per inch. The following suggestions should materially reduce your trouble:

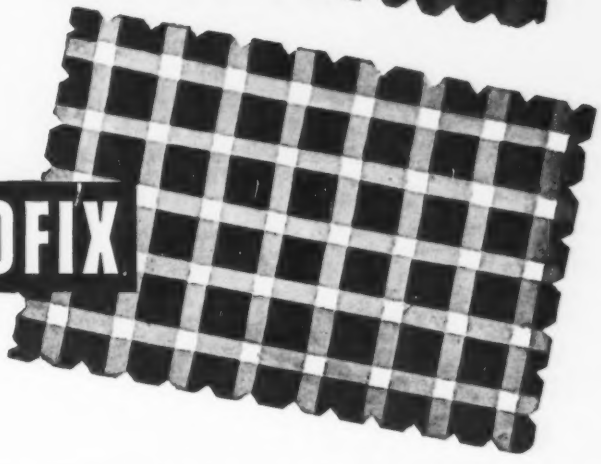
Use the opossum skins for furring the shuttle. This skin is one of the finest furs available for the purpose. The precut fur is a big help in obtaining best fixing results, and the extra cost is more than taken care of in quicker shuttle attention and fixer satisfaction. Avoid brushes, bristles, and wool for the 300-den. rayons. Trim the fur in a semiround form, leaving the heavier body through the center. This will require trimming some of the fur down to about half the depth. Glue the long strip in on the back wall to within ¼ in. of the whorl.

Cut the fur for the front wall to the desired length between the detector slot and the whorl. Cut out near the right end the necessary opening for the cutter slot. This short strip should be untrimmed except for cutting off long hairs down to the heavier fur body. The short, heavier strip on the front shuttle wall is necessary to permit the yarn to whip under

STOP

COLOR BLEEDING

with *CULOFIX



Preserve crisp detail and contrast of prints by using time-tested Culofix as an after treatment.

Kill bleeding troubles no matter where they occur—in the finishing bath—batching up after dyeing—in cross dyeing, etc.

Improve water fastness of direct colors and impart a very desirable soft, full finish at the same time, thus eliminating an extra finishing operation. (Where no softening action is needed, Culofix L should be used.)

If fastness to water or prevention of color migration is essential to your direct color dyeings, write for Technical Service Bulletin #204-106.1. Our technical staff is at your service without obligation.

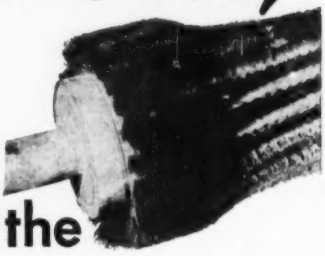
*REG. U.S. PAT. OFF.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

Don't throw it away



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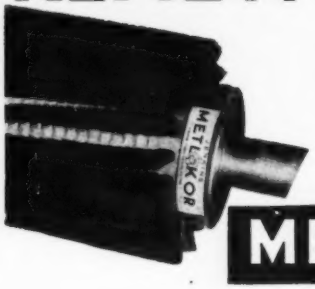

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Questions and Answers

(Continued)

the fur and thread properly on a transfer.

Low-twist yarns are rather dead in weaving and have the tendency to cling to the bobbin. Some are also slightly oiled, and this type of filling can rarely be woven successfully without numerous breaks.

If four to six rings of yarn are tangled around the bobbin at the time of a filling break, try changing the winder traverse. If the yarn rings do not occur, the filling may be ballooning out of the tension and breaking as it is drawn tight again into the tension. When the yarn flies out of the tension, broken picks may appear in various lengths.

It may be possible that you are using the wrong shuttle or tensions. You can secure a set of pads from Draper for testing the tension. These pads can be used to advantage in avoiding a heavy filling drag. You might also test the reeds at the selvages for sharpness.

Another source of heavy-filling breaks could be the pick. Too early or too strong a pick might cause them.

Firm Finish on Cloth Is Obtained With Ceglin

Technical Editor:

What is the product known as Ceglin? I understand that it is a cellulose derivative that can be applied to fabrics to give them a permanent finish. (9257)

Ceglin is a trade name that covers a series of alkali-soluble cellulose ethers made by Sylvania Corp. These ethers have been available for some years and are now being used considerably in finishing sheetings, print cloths, and (to some extent) spun rayons.

The material is a white fluffy fiber much like cotton linters. It is soluble in solutions of 3.0 to 6.0% caustic soda. Usually, it is necessary to refrigerate the caustic to make the Ceglin dissolve, and much time is required to effect the solution.

The solutions are quite viscous in concentrations of 3.5 to 4.0% caustic. The heavier concentrations are usually applied on a back-fill, but the more dilute solutions can be padded on the cloth in a conventional mangle.

The cloth is usually treated in the gray or immediately after boiling out. The treated cloth may be partially dried and then washed, or it may be run into a bath of dilute sulphuric acid or an organic acid like acetic.

Various degrees of stiffness may be obtained, depending upon the method

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Questions and Answers

(Continued)

of neutralization and whether the cellulose ethers are applied on gray or boiled-out cloth. Appreciable firmness can be obtained with only a small amount of the solution.

Cloth retains the finish very well; there is little loss in repeated launderings. Ceglin also tends to stabilize shrinkage and decrease slippage.

On dyed goods, an even application of the material is important. Otherwise, shadings and light or heavy streaks will develop in the goods.

Handle Processing Acids In Weak Concentrations

Technical Editor:

Will you forward any information you have available on methods of handling sulphuric, acetic, and formic acids from carboys to the dye machine? (9266)

The acids mentioned are handled in a variety of ways, the particular way chosen by a plant depending upon the volume used and the plant layout.

Generally speaking, the best method for handling concentrated sulphuric and formic acids is to dilute them in a mixing tank to a concentration that is less hazardous to handle. Carboys may be placed on rockers and emptied into mixiag tanks filled with the proper quantity of water to give the desired weaker concentration. Workers should be provided with face masks, gloves, and acid-proof aprons for this operation. From these storage tanks, the diluted acid can be pumped or allowed to flow by gravity to feed tanks at the dye machine. The proper concentration is made up at this point.

A less satisfactory method is to use an acid pump on the carboy, draw off the required quantity of concentrated acid into a pail, and perform the complete job of dilution at the dye machine. This method is far more hazardous than the method previously described.

Acetic acid in the 28% and 56% strengths can be handled satisfactorily in this manner, since it is not nearly so dangerous as concentrated sulphuric and formic acids. In the 84% strength, it can still be handled by means of acid pumps from the carboy into pails, but a person can get burned with the 84% strength. If mixing equipment is available, it is better to dilute the acid to a lower concentration before bringing it into general use.

TEXTILE WORLD embodies the following antecedent and absorbed publications: Industrial Record, Manufacturers Review & Industrial Record, Textile Record, Textile World Record, Textile Manufacturers Journal, Textile World Journal, Posselt's Textile Journal, Textiles, and Textile Advance News.

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. FEBRUARY, 1949

Review of 1948—a year of growth for Avisco

1948 was a year of particularly healthy growth for the American Viscose Corporation. The Company produced more rayon than ever before—and steps were taken to assure even further improvements in production through a general program of modernization. The year was also noted for several new technical advances important to the entire textile industry. A few of these highlights are reviewed below.

Modernization and Expansion

In 1948 American Viscose continued to push its modernization program, proceeding at the rate of $25,000,000 a year. The purpose is to assure customers of adequate rayon supplies of high quality at economical prices.

Source of Raw Materials

In 1948 steps were taken toward the organization of the Ketchikan Pulp & Paper Company in Alaska by American Viscose and the Puget Sound Pulp and Timber Company. This is a move on the part of Avisco to make possible future increase in productive capacity, and to protect its sources of supply.

Important Handbooks Released

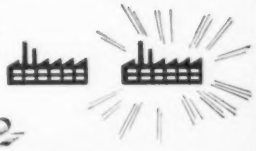
Two important handbooks for textile mills, prepared by the Corporation's Textile Research Department, were released during the year. These were "Rayon Technology" covering all phases of textile manufacture, and "Spinning Rayon Staple on the Cotton System," a compilation of technical data accumulated by the Company since it first started producing staple in 1935. In addition, Avisco extended its Consumer Service Program to distribute basic information on rayon to the greatest possible number of users.

Technical Advances

Perhaps the most important technical news of 1948 was Avisco's announcement of the development of the "Filamatic" process of continuous spinning. Other major advances were the disposable paper cover for rayon cakes, which has been widely acclaimed by the trade as more efficient than the knitted covers. In addition, new uses were developed for crimped staple, rayon flock and bonded-web rayon fabrics.

RAYON 20 YEARS AGO

NEW YORK, February, 1929—All-rayon ribbons are coming into their own due to the improvement in the quality of yarn used in making them.



NEW YORK, February, 1929—The Viscose Company produced an estimated 54,000,000 pounds of rayon in 1928, thus keeping its lead as America's largest producer.

LEWISTOWN, PA., February, 1929—The plant here of the Viscose Company will soon open its second unit. Production is expected to be boosted by 33⅓.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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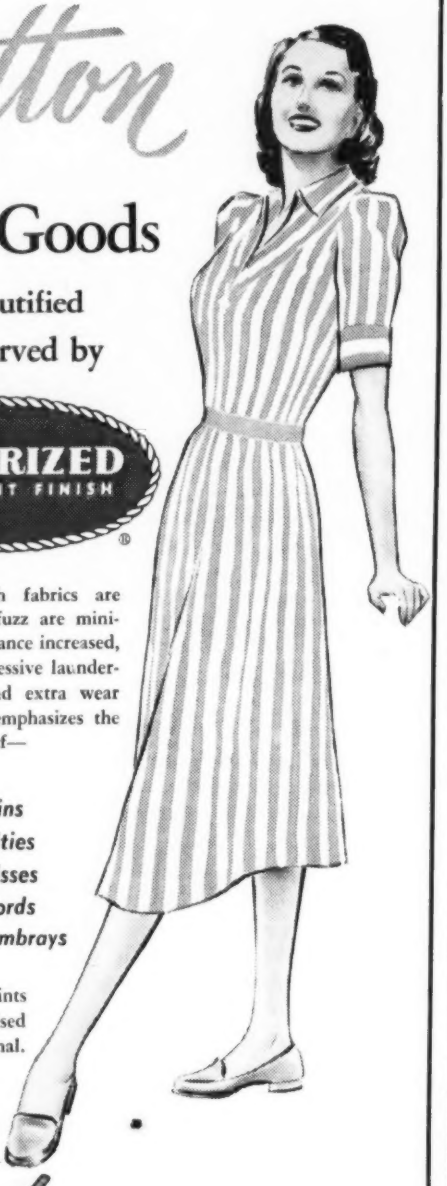

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Wool Scouring

(*Continued from page 119*)

According to Mr. Leonard, there are acknowledgments from various customers that the wool opened on a Rocar unit, as it is called, proved superior to wool opened on conventional preparatory machines. A topmaker stated that he found the following advantages: (1) In the carding process, the amount of waste decreased, indicating that the Rocar opening process reduced breakage of fibers to a large extent and increased his yield; (2) there was less noilage because the fibers were more uniform, and the staple length was increased by from ¾ in. to ½ in.

A statement from a woolen mill claimed that yarn strength increased about 25%, consequently the mill could obtain a required-strength yarn with less twist; production increased on account of less twist. In the scouring plant, grease recovery was larger due to virtually no grease being removed by the Rocar unit.

It is well known that with conventional opening machines—bale breaker, picker, and two-cylinder wool opener—one has to clean the rolls a few times during a 24-hr. run, and a heavy load of grease is scraped off the rolls. Since the Rocar unit is more or less self cleaning, practically no grease is lost during opening. The East Weymouth plant management states that no cleaning has been necessary on main cylinders, workers, and strippers despite running more than 20,000,000 lb. of wool through one of the units. Its records show one double Rocar unit is replacing four bale breakers, four one-cylinder pickers, and four two-cylinder wool openers.

Fewer men are needed since the new opening equipment has been put into use. Formerly in winter months, four men were needed to pull baled wool apart. Now only two are needed. The entire normal opening operation used to require six men. Now only three men are used.

PRODUCTION. Production depends on the width of the opening units. A 4-ft. Rocar unit can process from 4,000 to 5,000 lb. per hr.; a 6-ft. unit can handle from 7,000 to 8,000 lb. Production can be regulated by slowing down or speeding up the feed apron.

Interesting features on the machines are the so-called "seeing eye" which control the thickness of the layer on the aprons feeding the first and second sections. There is always the same thickness of the blanket of fibers on these aprons because the first "seeing

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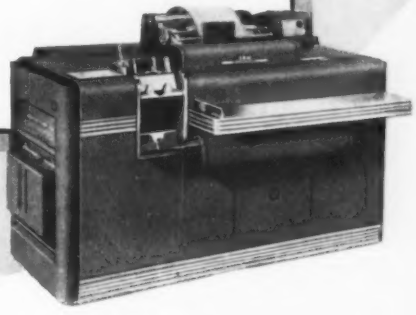

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eye" regulates the speed of the first section. Scouring units cannot take care of the quantities of wool that can be put through by one opening unit unless several trains are fed by one unit. An alternative is to operate the unit only a short time during the week and have the wool blown to a storage bin.

When multiple feeding of several scouring machines can absorb the entire production of the Rocar unit immediately, the entire process from wool opening through scouring and drying can be synchronized and streamlined, making possible a production of about 100,000 lb. daily in a 24-hr. working day.

The East Weymouth plant has such a continuous process partly in operation. Inasmuch as the wool on the Rocar unit is already opened to such an extent that the fibers are loose and not entangled with each other, the wool has to be kept immersed in the first bowls for only about 45 sec.; the bowl is much shorter than the conventional one. Despite leaving the wool immersed only for that short time, the wool appears just as free of grease and dirt as is the case in using the normal rake-type bowls. The synchronization of a 6-ft. Rocar unit delivering 7,000 to 8,000 lb. per hr. should feed two large scouring trains at the same time.

WEIGHING. The delivery apron at the end of the Rocar unit is connected to a scale. The scale indicates by visual means on its dial the amount of wool on the apron at any time. A known multiplying factor enables one to tell at once the rate at which the unit is delivering the grease wool to the scouring range. The same arrangement can be connected with the apron at the end of the dryer.

On the scale head is a pick-up device which operates a chart in a recording instrument which may be placed at any desirable place, for instance, in the office of the plant. This chart gives a constant record of the weight passing over the conveyors.

The multiplying factor and interpolation permits one to get the totals at any instant or throughout any period of the day of the rate of production of the Rocar unit and of the dryer; therefore, the plant manager or the foreman, if the recording chart is located in his office, has a steady control of the production of the machines and also can always see whether the machines are in operation. When the recording stops for some time, he knows that something has happened on the machines. He can go to the department to find the reason for the standstill. It therefore gives the man-

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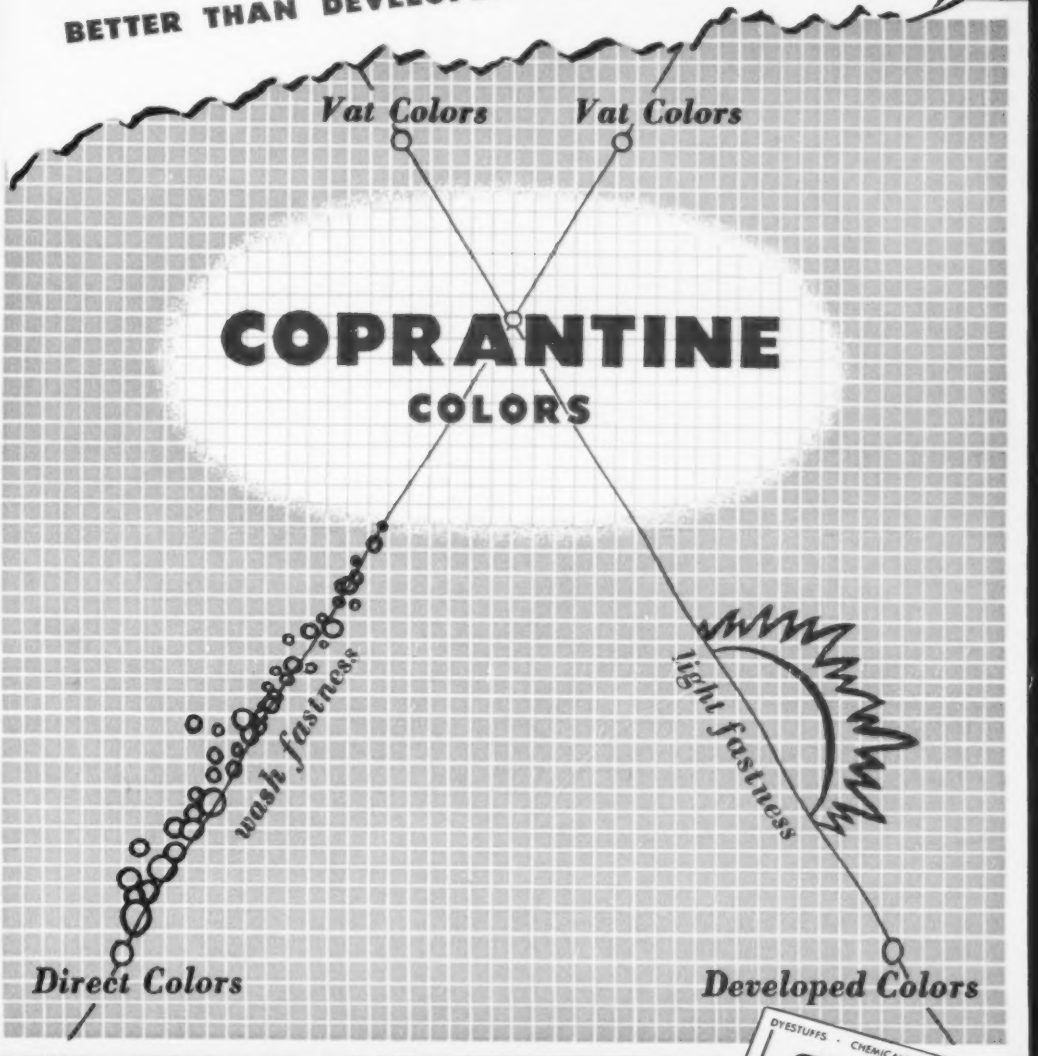

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ager or the foreman a steady picture of what is going on in the mill even when he is doing some other work in his office. Such control of a working process leaves the manager or the foreman more time for other essential work without being tied up most of the day watching personally for the continuous flow of the operation.

Instrumentation

(Continued on page 125)

couples and extension wire are interchangeable, and such changes do not require recalibration of the instrument.

MOISTURE CONTROL. The whiteness of a bleach depends upon the rate of chemical reaction in the J-box or steamer and upon the total quantity of chemicals present and their concentration in the water solution on the cloth.

Fabric moisture content has an important effect upon economy of range operation. Water requires about three times as many Btu's to heat as cotton does. By limiting the moisture content of the fabric to the minimum safe level, considerable savings in J-box steam consumption are realized.

In a continuous-bleaching range, the moisture content of the fabric is regulated by the pressure of the squeeze rolls. Squeeze-roll pressure, in addition, has a large bearing on the quantity of reagent on the cloth. The roll pressure governs the amount of solution which remains on the fabric after saturation; and by regulating the moisture content of the cloth prior to delivery to the saturator, it affects the "pick-up" of reagent by the cloth and consequently the rate of exhaustion of the saturator solution. As a result, the concentration of the solution becomes highly difficult to control if roll loading is not constant.

It is quite apparent, therefore, that the loading of squeeze rolls is critical in continuous bleaching. Particularly important is the loading of the rolls located immediately before and after each saturator. Of the various methods for effecting squeeze-roll loading, none is more practical and convenient than air pressure. Pneumatic loading is more flexible than dead-weight loading and more dependable than spring loading. It also permits recording of roll pressure at the more critical stations. Such a record is valuable to prove that rolls are operated at constant pressure and that the pressure has not exceeded the safe limit.

The pneumatic squeeze-roll loading station consists of a pressure regulating valve, a dial-type pressure gage, and a transfer switch. Often a push-button station is mounted with the loading station for stopping and inch-

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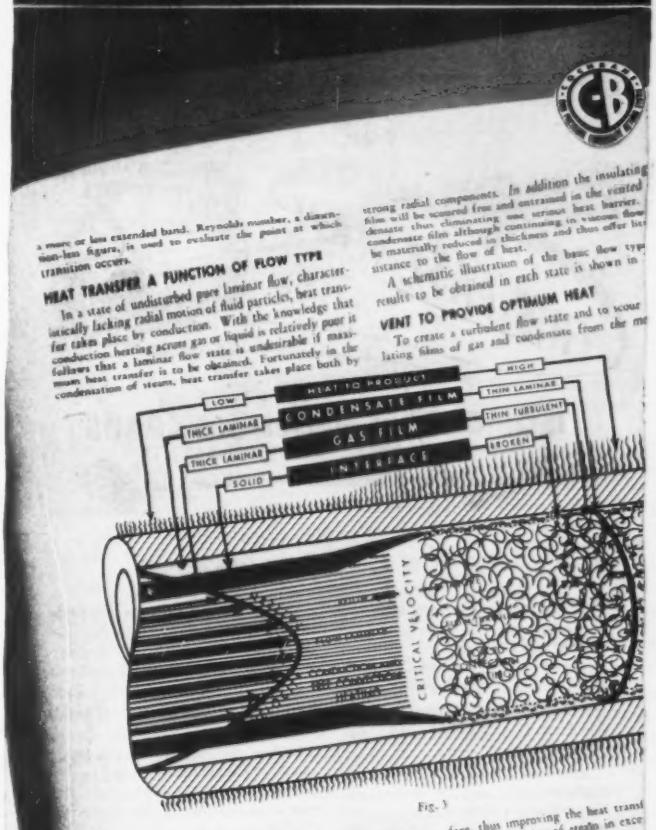

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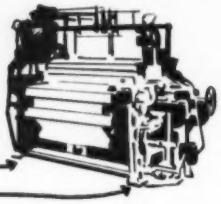

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You may wonder how, with a pad only 5/16-inch thick, it can cushion the pounding of heavy machines. Yet with the extra resiliency obtained through the "cross-cleated" construction, and when properly loaded 50 pounds to the square inch, MB Pads display remarkable absorption of vibration and shock. As much as 78% of the vibration transmitted to the floor by one leg of a loom, for example, was stopped by Isomode Pads. Their proved performance in *thousands of installations* attest to the fact that they will do their job for years—resisting oil, water, aging.

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ing the rolls. It is usually convenient to include two loading stations on one panel. When recording is desirable, a two-pen pressure gage is used to record the loading of both sets of rolls.

There is a current trend, moreover, to use an individual loading unit for each end of the washer squeeze rolls. The double loading station with the two-pen recording gage can be employed in these installations for each set of rolls.

The air-supply line piped to the pressure regulators is best controlled through transfer switches. The dial air-pressure gage and the pressure recorder can be connected to the line which supplies the loading end of the cylinder. Accordingly, they will measure loading pressure only. Because of connection in this manner, the chart record will show the time and duration of each period when the rolls are opened by registering zero pressure.

Inclusion of a transfer switch and a push-button station on the loading panel facilitates threading cloth through the range. The ability of the operator to open or close the rolls, and start, stop, or inch the rolls from a convenient location speeds the threading operation and reduces the possibility of human injury or mechanical damage to the equipment. It also is valuable, in the event of emergencies during operation, to be able to stop the range quickly or open or lift any set of rolls.

WASHING. Washers perform a vital function in continuous bleaching, as it is evident that inefficient washing will be reflected in the quality of the finished product.

Since some of the impurities and reaction products in cotton cloth are relatively insoluble or tend to adhere to the cloth when cold washing is employed, it is generally preferable to utilize hot water in the washers. To insure best washing, the water must be maintained at a fixed temperature.

In establishing optimum operating conditions for the washers, the mill operator should hold both steam and water consumption to a minimum, as these two factors form a material part of the operating expense of the entire bleaching range. Even in mills in which a large supply of inexpensive wash water is available, increased water flow through the washers results in such a corresponding increase in valuable heating steam that this water flow should be held to a minimum in order to prevent excessive steam consumption.

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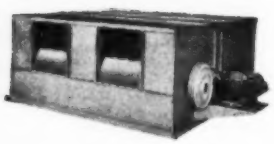

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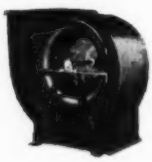
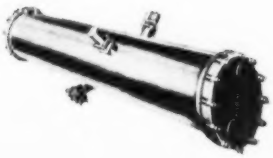


CENTRIFUGAL FANS



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Positive new savings for every cubic foot of air moved! *No centrifugal fan has ever been built that will move air with as little power as the new Sturtevant Silentvane.* Efficiencies in excess of 80% are obtained over 37 per cent of the usual application range. *Peak efficiency now reaches 86%.* Check these five outstanding features:

1. **QUIET OPERATION**—because of the streamlined inlet and careful attention to smooth eddy-free air flow.
2. **INHERENT HIGH EFFICIENCY**—because of basic Silentvane design.
3. **TRUE SELF-LIMITING AND NON-OVERLOADING HORSEPOWER CHARACTERISTIC**—at any given speed.
4. **SPEED FLEXIBILITY**—for direct connection or belt drive.
5. **FREEDOM FROM DUST LOADING**—because of flat blade surfaces and fewer blades.

Here is the answer to your heating, air conditioning or industrial ventilating requirements. Call your Sturtevant office, or write to Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Mass.

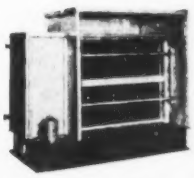
Westinghouse
Sturtevant Division

REFRIGERATION COMPRESSORS

AXIAL FLOW FANS

HEATING AND COOLING COILS

UNIT AIR CONDITIONERS



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PRECIPITRON* (ELECTRONIC AIR CLEANER)

Everything that puts air to work for Every application

J 80127 *Reg. U. S. Pat. Off.

How modern FLOWRATOR instrumentation is used in the Textile industry

FLOWRATOR flow measurement instruments are eminently well suited to highly corrosive fluid metering applications.

In the Textile Industry, a few of many flow indicating and controlling applications are listed as follows:

- √ Dilution control of concentrated caustic soda during tank car unloading operations.
- √ Flow rate control of caustic soda silicate, and peroxide flow rates in continuous bleaching ranges.
- √ Make-up and feed control of soap and alkali to continuous wool scouring ranges.
- √ Acid flow rate control in print aging processes.
- √ Oil emulsion flow control to wool combing machine or picker.
- √ Flow control of wool scouring liquors to centrifugals in wool grease removal processes.
- √ Flow control of soap and water to rope washers.
- √ Dye solution control to vats in continuous dyeing processes.
- √ Caustic and acid flow rate control in mercerizing processes.
- √ Specific gravity control for any acid or alkali used in textile manufacturing processes.

Send for catalog 32 describing corrosive service FLOWRATOR meters and catalog 50 giving complete details about control instruments.

BASIC PRINCIPLE

In this type of meter, the variation in area is obtained by means of a vertical tapered tube with the smallest diameter at the bottom. A weight of fixed diameter, (called the "float") moves freely within this tapered tube and hence the area between the float and tube increases as the float rises. This area then becomes a measure of the flow and for every flow rate there is a fixed position of the float in the tube. Therefore, the "FLOWRATOR" can be accurately calibrated to read directly in flow rate.

Write for Catalog 10 in which we illustrate in an easy-to-read style the many advantages of this method of flow measurement.

FLOWRATOR • FISCHER & PORTER CO.
TRADE MARK Dept. 9M-8X, Hatboro, Pa.

tion can be accomplished only through the use of properly engineered automatic control. The control system used should automatically maintain both the quantity and the temperature of the wash water at those values consistent with best washing efficiency.

A potentiometer, with its thermocouple located in the washer, can measure and record wash water temperature; and through a pneumatic control unit, it can regulate the steam supply to the water heater to hold this temperature at the desired value.

Flow of wash water can be continuously measured by a recording flow meter which also incorporates a pneumatic-control unit. By operating a valve in the water line, this instrument automatically maintains the flow at a rate which will provide best washing efficiency with least steam consumption.

Both instruments can be installed with integral by-passes which permit rapid changeover from automatic to manual operation of the steam and water valves.

RELAYS. An inclusion of two electric-pneumatic relays in the control system can result in savings far in excess of the initial cost of these devices. The relays, which are connected electrically to the washer drive motor, instantly cut off flow of both steam and water to the washer when the motor is de-energized.

When the washer drive motor is shut down, the electric-pneumatic relay operates to cut off the air to the diaphragm motor of the steam valve, at the same time exhausting this diaphragm motor to atmosphere and allowing the valve to be closed by a spring. As soon as the motor is started up, the diaphragm motor is again connected to the controlled air pressure from the instrument and is positioned automatically by the pneumatic control unit.

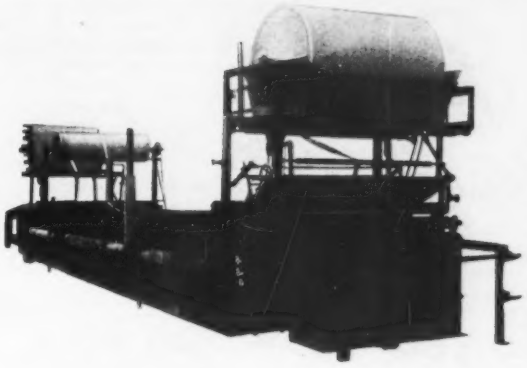
The use of an electric meter body will permit continuous measurement of water flow and also transmits its readings electrically to a recording controller. Action of the controller is similar to that of the temperature controller, except that water flow rather than temperature is being measured and automatically controlled.

The electric-pneumatic relay in the air line between the control instrument and the flow-control valve is identical in operation to the one employed with the temperature controller.

The control system described is illustrated as applied to a two-stage range employing four washers. This is an alternate system for tight washer ranges. It is characterized by the efficiency of counter-flowing used hot

The Evidence

of the worth of any machine to an industry is what those say who own it.



NEW HINNEKENS FLEXIBLE BOIL-OFF

—machine takes cloth continuously in full width, eliminating break marks, stick marks, and other faults inseparable from the use of usual type machines.

Used by 80% of America's dyers, and printers.

The Hinnekens Line of Textile Machines

—includes Dye Becks, Embossing Machines, Dye Jigs, Calenders, Padders, Tentering Frames, Quetsches, Beamers, Examining Machines, Palmer Tenter Unit, Print Washers, Conveyor Dryers, Mangles, Rolls and other essential equipment, distinguished by better design and functional excellence.

WHAT ONE USER SAYS:

"This machine really shrinks the cloth.

"I checked it against another type.

"I found, probably because of the particular design of your machine, the goods shrink up to 50% more, giving a denser fabric.

"Another thing, this is the only machine you can use for plyed yarns.

"After all, the boil-off machine is really a setting machine. It sets the cloth for subsequent operations. All the other steps depend on a good boil off.

"This Hinnekens machine is 'tops' for that job. It gives the quality of the old stick boil-off, with continuous operation.

"It is equally good for all types of clothes: crepes, flat goods, mixtures, acetate and rayon."

ANOTHER USER REMARKED:

"What I like about this machine is that it handles the goods full width. You don't get cracking of the fabrics as you do when you try to handle them in rope form. This machine really sets the goods."

"We use it for Suwanees, Bengalines, Alpaca, Russian Cords, Romaines.

SOME USERS

R. W. Bates Piece Dye Works
Beaunit Mills, Inc.
American Textile Processing Co.
Fontaine Converting Works
Modern Central Dyeing and Finishing Co.
Associated Piece Dye Works
Cliffside Piece Dye Works
Waverly Piece Dye Works
Passaic Piece Dye Works
La Francaise Silk Finishing Co.
United Piece Dye Works
Fairlawn Finishing Co.
Bouchard & Charvet Dyeing & Finishing Co.
Hygrade Finishing Co.
Waldrich Co.
Norman Finishing Co.
Commercial Piece Dye Works
Chenney Brothers
Ming Toy Dyeing Co.
Gaede Silk Dyeing Co.
Sayer Silk Dyeing and Finishing Co.
Ware Shoals Bleachery
Joseph Bancroft & Sons Co.
Riverview Finishing Co.
Stonecutter Mills, Inc.
Hellwig Dyeing Corp.
American Textile Processing Co.
Greenville Finishing Co.
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Burlington Dyeing & Finishing Co.
Bradford Dyeing Association
National Dyeing & Printing Co.
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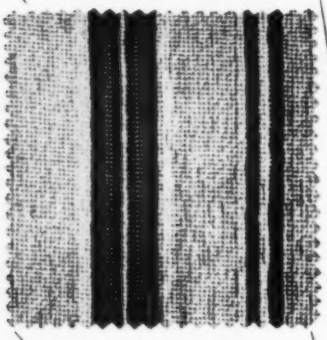
THE HINNEKENS MACHINE CO., Inc.

199 GODWIN AVENUE PATERSON, NEW JERSEY

FOR UPHOLSTERY FABRICS



The Yarns are Dyed by

Globe DYE WORKS CO.

4500 WORTH STREET,
PHILADELPHIA 24, PA.

water. As can be seen, completely automatic control of the second and fourth washers is sufficient to provide efficient operation of all four washers.

The heart of the continuous-bleaching process is the J-box where the chemistry of scouring and bleaching occurs. Reaction conditions in the J-box must be correct, or all the care taken in moisture control, saturation, and washing is voided.

J-box control involves making certain that each yard of cloth which enters the box is heated uniformly to reaction temperature without excessive use of steam. Excess steam is not only wasteful but produces inferior bleaching by leaching out reagents.

The same electronic potentiometer which is used for temperature control throughout the range also regulates the supply of steam to the J-box. The location and number of thermocouples used varies, depending upon the type of J-box employed. In either type of box, installation of the couples is simple, and replacement can be made in a matter of a few seconds.

Half-Hose Lubrication

(*Continued from page 127*)

and waste formations can prevent the free flow of oil to the bearing surface at this point of the half-hose machine With a pressure lubricator, the fixer forces the oil to the most remote location. He simply presses upon the spring-bottom of the can and forces the oil through a pressure cylinder in the spout. When gears are thoroughly oiled, there are savings in gears and bearing failures. A pressure lubricator was found to be especially useful when oils of high viscosity were required.

The use of glass sight-feeds by the same mill for oiling line-shaft motors greatly reduced maintenance work on motor bearings. Sight feeds simplify the inspection of these important points. Supervision no longer guesses whether there is sufficient oil in motor bearings.

LUBRICATION OVERDONE. The chief question in half-hose oiling practice has always been "how much oil?" Many fixers claim that most mills use too much oil. Grease-stained goods are the result of such a practice, they say. Over-oiling is dangerous, but under-oiling is just as dangerous. The half-hose machine is unique in that it has many small parts and several rather large parts that operate mostly in the horizontal plane but are positioned in a vertical frame. It is, therefore, almost impossible to prevent some dripping of the oil from the

How NOPCO* FUA

cuts your wool processing costs

3% **OF NOPCO FUA**

applied to stock is all you need—3 lbs. NOPCO FUA per 100 lbs. wool—as against

8% **OF CONVENTIONAL WOOL OILS**

This tremendous differential is only one of the reasons why this initially *higher priced* product is proving the *most economical* of all wool oils in actual performance. Other reasons are

100% **ELIMINATION OF SOAP**

NOPCO FUA *eliminates the need for all soaps and detergents* in fulling and scouring. It also stops static completely during carding. It does not rust or corrode. NOPCO FUA is anhydrous, all fatty, contains no mineral oil or hydrocarbons—is salt free and ash free.

What these percentages mean to YOU

They mean . . . increased production quality and volume, valuable savings of time and equipment, reduced cost of *all* operations. Try NOPCO FUA in your mill. Give your woolens the benefit of its many exclusive advantages, its unparalleled versatility.

SEND FOR NOPCO FUA TECHNICAL BULLETIN

Mail coupon today and get all the facts about NOPCO FUA's versatile aid to better wool processing.

NOPCO CHEMICAL COMPANY. Harrison, New Jersey

Formerly National Oil Products Company

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Please send, without obligation, your NOPCO FUA Technical Bulletin.

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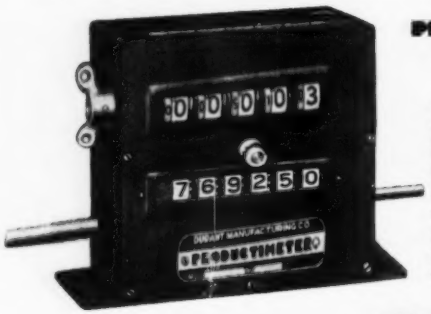
NOPCO FUA

SELF-FULLING SELF-SCOURING WOOL OIL

PRODUCTIMETERS
for Accurate Measure on Every Machine

Productimeter Textile Counters register production swiftly and accurately . . . they provide a dependable basis for wage payment . . . they insure maximum production and efficiency. These easy-to-read counters are available in a wide range of models to meet every mill need.

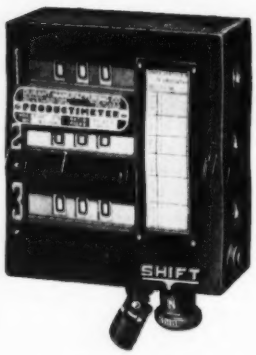


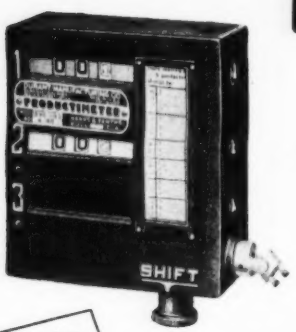
PRODUCTIMETER
PREDETERMINED COUNTERS

Set the predetermined mechanism for the desired yardage, then start production. The counter stops the machine or sounds signal when quantity is reached. Prevents over-runs or under-runs . . . available in several models to register individual runs and accumulated totals.

PRODUCTIMETER
3-SHIFT PICK COUNTERS

Ruggedly built for long, continuous wear. Made of precision machined metal parts, including wearing parts of number wheel. Also available in 1-Shift and 2-Shift models.





PRODUCTIMETER
2-SHIFT HANK COUNTERS

An exceptionally sturdy and accurate counter for installation on spinning and roving frames, speeders, combers, twisters. Also available in 1-Shift and 3-Shift models.

Send for Catalog No. 50

DURANT MANUFACTURING COMPANY
1931 North Buffum Street, Milwaukee 1, Wisconsin
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PRODUCTIMETERS
SINCE 1879
Speedometers OF INDUSTRY

upper parts of the machine to the lower parts, unless of course the fixer "under-oils" the part. Some oil necessarily must accumulate, and usually it will accumulate on the gear base. Since the fabric takeup is located on the gear base, some measure must be adopted to eliminate or absorb the oil that collects at that point.

One mill uses a very simple method. It applies a system of wicks to the gear base. The wicks absorb the oil and withdraw it to a can located at the rear of the machine. Where this system is used, excessive oil does not accumulate on the gear base, and fabric quality is not endangered. Other methods used by the mill require careful inspection and cleaning of excessive oil wherever it may endanger the fabrics.

Concrete results of any particular system of maintenance cannot be tallied accurately because of the wide differences between mill equipment, styles, yarns, etc. The results obtained, generally speaking, from the lubrication chart used by the mill for many varied machines may be suggested by the amount of inspection and overhauling required. The periodic inspection schedule to determine overhauling is shown in Fig. 2.

Schneider Mill

(*Continued from page 121*)

duct system. Mill basic temperature is 80°F., and relative humidity is 74%. Weave room and office floors have grease-proof asphalt tile on a 5-in. slab of concrete. Preparation departments have maple floors. All equipment is cemented to the floor on Felters' Unisorb ¼-in. pads.

Auxiliary equipment includes an R. D. Cole spherical tank on a 75-ft. stem and which has a 75,000-gal. capacity. A 200,000-gal. concrete reservoir is now under construction. The Cleaver-Brooks marine-type boiler burns No. 3 or No. 5 fuel oil that is pumped from two 10,000-gal. railroad tank cars that were buried underground. All mill elevators are hydraulic-lift types installed by Ace Elevator Co.

LIGHTING. Over each pair of looms, the mill installed four 100-watt tubes that give 50 foot-candles on the loom lay. In addition, an automatic emergency lighting system is installed in each department, as well as in the boiler room, warehouse, and office. This lighting is obtained from units built by Surrette Storage Battery Co. that give instant illumination when electric power fails. The units plug into 110-volt, 60-cycle, a.c. current. Rechargeable batteries of the system

Laurel Boil-Off Oils and Compounds for more effective degumming of pure silk, rayon and cotton mixtures.

Laurel Emulsions and Softeners for better quality, better knitability, proper conditioning, proper regain.

Laurel Hosiery Finishes for softer, smoother appearance, greater freedom from snags, more wear.

Laurel Nylon Finishes for speedier processing, improved hosiery quality.

Laurel Olamine, cation active softener for exceptionally soft finish on dyed rayons.

Laurel Rayon Oils for faster, softer yarns, improved appearance and hand of your rayon.

Laurel Ruxite Coning Oils for superior lubrication, greater pliability, fewer breaks, higher winding efficiency.

Laurel Rayon Size for smoother, stronger, cleaner, more resilient rayon warps.

Laurel Textile Oil, a favorite of hundreds of customers because of its unusual versatility for improved quality and finish of fiber and fabric.

Laurel Wool Oils for maximum lubrication.

Laurel Wool Scouring Compounds for speedier detergent action, clearer, more even dyeings, cleaner, softer, loftier wool.

Laurel Special Finishes, Water Repellents, Mildewproofing and Flameproofing Compounds.

Yes, no matter what fiber or combination of fibers you are using, you will find there's a Laurel Product that will give you exactly the finish you desire.

For over thirty-nine years Laurel has been meeting successfully myriad challenges of leading dyers, bleachers and finishers. From this reservoir of experience and service has come the long line of Laurel processing agents to give you better, more efficient processing for every dollar you spend.

Plan now to get the extra benefits Laurel Soaps, Oils and Finishes impart to your fibers or fabrics. Ask Laurel Technicians for their recommendations on your next processing job.

soaps, oils, finishes

LAUREL SOAP MANUFACTURING CO., Inc.

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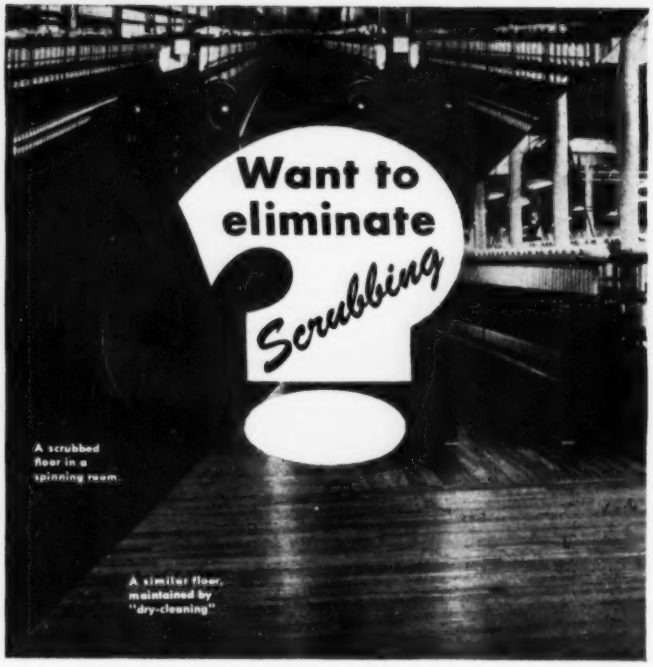

...and get cleaner floors *for less!*

What a difference when you stop scrubbing and use *modern* methods! Same traffic, oil and dirt conditions—but the "dry cleaned" floor is brighter . . . less slippery . . . easier to clean, and it *costs less to maintain.*

TENNANT FLOOR MAINTENANCE SYSTEM

1. Restores life to your floors. Gets rid of dark, rough, water-softened fibers . . . assures a clean, smooth, new-wood surface. Brings back original beauty of floor.

2. Hardens surface to resist wear. Special sealing process makes floor resistant to dirt penetration and traffic wear. Makes floor lustrous, easy to keep clean.

3. Dry Cleans to keep floor bright. A fast easy job with a Tennant machine; cleans floor like magic! Saves manhours, keeps floor smooth, safe, attractive.

FAST, EASY-TO-USE Tennant Floor Machine whisks grime from floors and picks it up in 1 operation. Various models for 8", 12" or 16" drum-type accessories for complete reconditioning and maintenance of mill floors. Has semi self-propelling action.

G. H. TENNANT CO.
2586 North Second Street
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Write Today!
Send for NEW 4-page illustrated bulletin on "How to Get Better Results in Textile Floor Maintenance."

"The way to finer floors"
TENNANT
Floor Maintenance System
Established 1870

FLOORS, LIKE ROADS ...ARE SAFER *when dry*

have 6 v. and 100 amp. The use of emergency equipment provides for the ready use of strategic control boards throughout the mill, tends to minimize the psychological effect of a sudden stoppage of machines, and permits the normal movement of personnel to and from the mill and departments.

While much of Schneider Mills' new equipment is already in operation, one important equipment feature of the mill is yet to be installed. An 86-in. Barber-Colman FSH warp drawing-in machine will be installed. Two warp trucks will be used with the system.

After the drawing-in process is completed by the machine, one of the trucks with the finished warp is removed from the machine along guide rails that run at right angles to the machine. This withdrawal permits the machine-operator's assistant to make the necessary warp corrections, to doff warp and weaving elements (harness, reed, and drop-wires), and to reload. Prior to this operation, the assistant has made ready the second warp truck for the drawing-in process.

When loading the machine, the beam is placed on movable supports. The harness, reed, and drop-wires are suspended from an overhead mechanism on the truck which is then positioned at the machine and locked securely. Harness, reed, and drop-wires are then transferred to the machine's overhead structure. After all the actuating parts of the machine have been connected, it is ready for the drawing-in operation.

WARP PREPARATION. Primarily, Schneider Mills will manufacture 75- to 100-den. yarns into high-quality lingerie fabrics that other plant units will finish, cut, and sew into garments.

The Cocker warpers use outside-sheet Sipp-Eastwood creels. When using 4-lb. cones, the creels hold 880 ends. Creels are 10 rows high, and 44 rows long.

Warps are slashed on a Cocker slasher that has seven 60-in. cylinders and a creel for up to 16 30-in.-diameter warper beams. Schneider runs the last cylinder of the slasher cold. The size-box temperature is 180° F., and that of the back cylinder (on 75-den. warps) is 190° F. and those of the next five cylinders 180° F. An average of 27 yd. per min. is maintained by the d.c. variable-speed unit attached to the machine.

Schneider has two Groen stainless-steel size kettles that are equipped with Mixing Equipment Co. "Lightning" mixers. Monsanto's Stymer size and Chemical & Industrial Laboratory's antifoam paste are used in the size mix. Formulas used are: 86 lb. of Stymer per 100 gal. of water for

PROXOL-*the New Wool Oil*

is ready with ALL the answers!

Do you choose a wool oil on the basis of its lubricating properties alone? Of course not! For no matter how efficiently an oil performs, you've got to get rid of it when you scour. And here's where many wool oils fall down. They are too hard to scour out—cause plenty of grief in bleaching, dyeing and finishing.

Proxol, like a welcome guest, knows when to leave—and does so when it should. Proxol is easily removed in scouring—with 40% to 75% savings in normal soap and alkali usage. This important Proxol quality helps assure clean goods—important in subsequent dyeing and finishing operations.

Proxol is Procter & Gamble's efficient new wool oil. It's a self-emulsifiable oil which needs no help from added emulsifiers. Has a less-than-20°F pour point. A Proxol emulsion is extremely stable—it won't separate, regardless of storage period.

Procter & Gamble

Cincinnati, Ohio—Makers of Olate the universal low titer textile soap

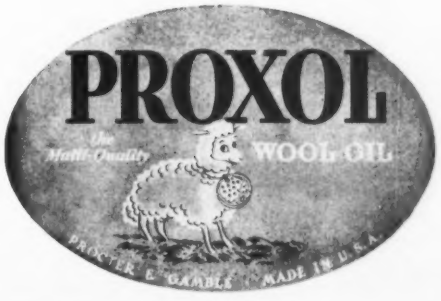
Better Carding-

You can't miss seeing the excellent results of Proxol in the carding operation. Card ropings are round, smooth and uniform because of its excellent lubricating properties. Stripping is reduced.

Better Spinning-

Good results are equally apparent in spinning. Yarns spun with Proxol are uniform in weight and unusually strong because Proxol provides the good lubrication and controlled cohesion so necessary for good yarn. Better moisture retention, a built in feature of Proxol, also helps improve carding and spinning. This is especially noticeable when operations are resumed after a week-end shut down. Fewer ends are down and piecing is minimized.

Proxol is proving itself a superior wool oil in a steadily increasing number of important woolen mills. It will pay *you* to standardize on Proxol.



Keep plant traffic on the go

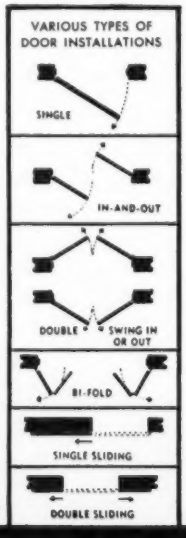
with STANLEY MAGIC DOORS

THE "ELECTRIC EYE" gives the go-ahead and Magic Doors open automatically when approached by busy workers or loaded trucks. After passage, the doors close promptly.

You'll recognize these advantages: speeded traffic . . . saving time . . . conservation of heat, humidity, or air-conditioning . . . less door damage.

Stanley Magic Door operating efficiency is proved by years of trouble-free operation, surprisingly versatile in operating swing or slide doors or a combination of the two, and is designed to suit most requirements of space or location.

Your present doors can be suitably equipped. Write today for descriptive folder. The Stanley Works, Door Control Div., 207 Lake Street, New Britain, Connecticut.



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Reg. U.S. Pat. Off.
HARDWARE • HAND TOOLS • ELECTRIC TOOLS • STEEL STRAPPING

STANLEY MAGIC DOORS
Require No Hand to Open

75-den. warps and 100 lb. of Stymer per 100 gal. of water for 100-den. warps.

Warp performance at Schneider's new mill is said to be one of the best in the industry. For example, 12 consecutive warps were run of 75/20/3 bright Celanese at 27 yd. per min. on the seven-cylinder slasher without an end out at the slasher. Weaving efficiency is said to be very high, despite the fact that all Schneider looms are dobbies. While good warps result from the mill's combination of equipment, materials, and techniques, several beneficial factors were said to result directly from the use of the new size and its supplementary defoaming agent. There is no adherence of size to cylinders and no trouble with static either at the slasher or the looms. No static eliminators are used. Another result obtained from the use of the new sizing elements is that kettles are easily cleaned when new batches of size are needed.

Air Conditioning

(*Continued from* page 157)

imum production with few or no adjustments can be realized.

If the yarn were perfectly cylindrical, the requisite force previously mentioned would increase as the fourth power of its diameter. In a sense, this is not wholly true because the current practice of sizing yarns usually turns out a flat tape rather than a cylindrical bundle. However, in the finer nylon yarns which are monofilaments, the size solution has a tendency to keep the yarn in an essentially cylindrical state. For all practical purposes, a fine-denier yarn can be considered round in shape. In fact, the finer the nylon yarn, the more cylindrical it will be.

PRECISION MACHINERY. The increasing use of more precisely built machinery, as a result of the demand for finer hosiery, has made it even more imperative to control atmospheric conditions in a knitting mill. The tendency has been to go from 45-gage machines to 51-gage and higher; that is, finer and finer. This calls for more precision in the machines. Settings and tolerances are becoming very close, consequently changes in temperature cause considerable trouble. Uniform control of temperature and humidity maintains the machine at its original setting, reduces wear and tear on the machine, reduces needle consumption per dozen pairs knit, lessens machine trouble, and as a result reduces fixing for the machine fixer.

With wide fluctuations in temperature, the metal in the knitting ma-

Textile Detergent Operations

OPERATION AND FIBER	PURPOSE OF OPERATION	DETERGENT PROPERTIES REQUIRED	DETERGENT RECOMMENDED
KIERBOILING Cottons	To remove natural waxes, motes, pectins and soil; to improve absorbency	Rapid penetration and/or soil removing and suspending action	Certified Flint *Regal *Energetic
BOIL-OFF 1. Cotton	To remove natural waxes, motes, pectins and soil; to improve absorbency	Rapid penetration and/or soil removing and suspending action	Certified Flint *Regal *Energetic
2. Synthetics including hosiery	To remove spinning oils, sizing compounds and soil	Good detergent action; in some cases leveling properties	Certified Flint Giant *Energetic *Triumph
CONTINUOUS BLEACH Cottons	To remove natural waxes, motes, pectins and soil; to improve absorbency	Rapid penetration	*Regal
DESIZING Cottons	To remove size	Rapid penetration and wetting action	*Regal
SCOURING 1. Raw wool	To remove grease and dirt	Good detergent properties. Easy solubility and rinsability	Re-Nu Texscour Certified *Triumph *Regal
2. Wool piece goods and yarn	To remove spinning oils and soil	Oil emulsification	Texscour Certified *Regal
DYEING 1. Cottons	To improve dye penetration and leveling action	Stability to acids often necessary	*Regal *Energetic
2. Wool	To perform leveling action	Dye suspending action; stable to acid	*Energetic
SOAPING 1. Cottons dyed	To remove excess dye; bringing up color	Maximum detergent action	Flint *Triumph *Energetic
2. Prints	To remove gums, starches, etc.	Maximum detergent action	Flint *Triumph *Energetic
FULLING Wool	To aid in fulling operation and scouring	Good lubricant properties	Flint Certified
FINISHING 1. Cottons	To apply a soft hand to goods	Low titer; freedom from rancidity	Certified Texcour
2. Synthetics	To provide scroop	High titer; freedom from rancidity	Flint

*Synthetic detergent

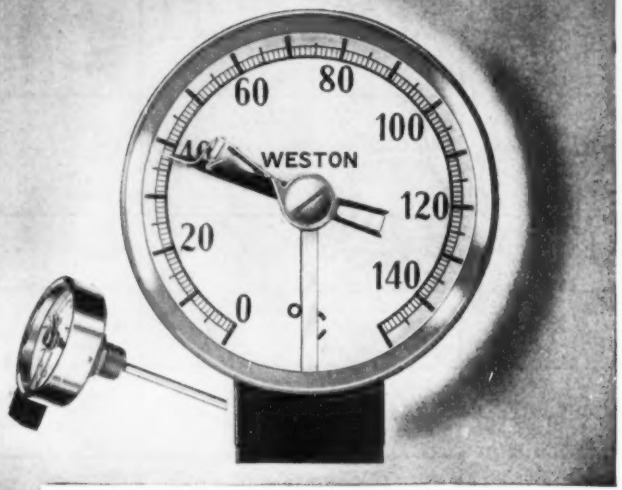
Additional copies of this chart, and full information on any product may be secured from ARMOUR AND COMPANY, Industrial Soap Division, 1355 W. 31st Street, Chicago 9, Illinois.

NEW—

all-metal WESTON

Contact-making

thermometer



This new Weston combines the features of an indicating device with the advantages of an alarm or control instrument. A contact arm, mounted as shown above, is easily set to make contact at any temperature on the scale.

A terminal block on the periphery of the case makes electrical connection easy. The thermometer is all-metal, typically WESTON in ruggedness and reliability, with accuracy of ±1% as an indicating thermometer, and ±1½% as a contact making device. It is supplied in two types—for operation on either increasing or decreasing temperatures.

For complete information see your local WESTON representative or write Weston Electrical Instrument Corporation, 617 Frelinghuysen Avenue, Newark 5, New Jersey.

Industrial Thermometers | MAX-MIN Thermometers | Contact-making Thermometers

WESTON

Thermometers

chines may expand to a greater degree than the clearance or tolerance. Hence, changes in the dimensions of the machinery can cause trouble, as tolerances are literally microscopic in fine-gage knitting machines.

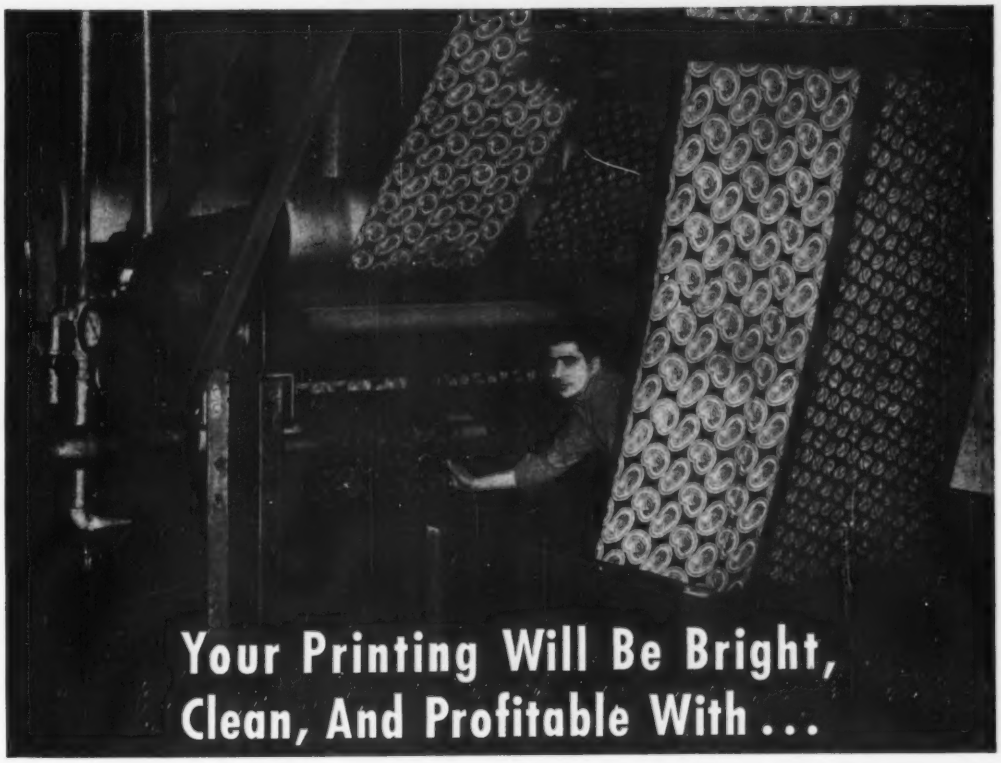
Hosiery knit with machines that maintain their settings and with nylon yarn that is kept uniform and stable usually is as perfect as man can make it. Lengths can be paired readily as variation is literally eliminated. These variations can amount to as much as 2 in. in length. The tiny loops which form the entire stocking must be uniform, otherwise rings and other imperfections result.

HEAT GENERATED. The increasing use of higher-speed operation results in the dissipation of more heat as a result of increased friction. This heat is distributed along the knitting machine, except for the heat due to unavoidable losses in the motor. With machines built with more precision and then operated at higher speeds, the need for air conditioning is even more pronounced in order to counteract the resulting overheating.

Excessively high temperatures will cause the nylon to expand further per unit of length, and the sizing can soften up to a point where gumming and kinking of the nylon at the needles becomes a major headache. This trouble is more pronounced with machines of finer tolerances operating at increased speeds.

With the rising cost of labor, it becomes more desirable for the mill man to obtain and hold a better class of operatives. The human element is what runs and operates the machines in any hosiery mill. Although air conditioning is usually considered from the point of view of machines, production, and less troublesome operation, it can now be definitely determined that the human element should receive consideration as well as other factors. Originally, the benefits of air conditioning as affecting labor were considered of an intangible nature, associated generally with supposed gain in efficiency. However, at the present time, these benefits can be considered a tangible item. There is a marked reduction in absenteeism of employees as well as in turnover, providing a wider and superior choice of labor. As a result, not only does the mill benefit in production, but the merchandising group receives a more uniform product.

Air conditioning gives men, money, machinery, and merchandisers a fair and complete chance to do their best. It provides merchandisers with the assurance and backing that the product will remain uniform and at lower cost to the mill.



A Feature to Remember!

ORATOL L-48 Gives Brighter Cleaner Shades

ORATOL L-48

The problem in the print wash operation is to remove excess pigment and paste constituents, *quickly* . . . to brighten and liven colors . . . with no waste of time or added expense.

Oratol L-48 has high foaming, emulsifying, and wetting properties . . . requisites in the rinsing process. Its powerful detergency and rapid scouring action greatly reduces any tendency toward bleeding. Oratol L-48 is stable in hard water and performs equally well on all types of fibres — under acid or alkaline conditions.

What this means to you:

1. Quick, effective rinsing
2. Brighter, livelier shades
3. Fewer rejects
4. Greater output . . . greater profit

Oratol L-48 has other important advantages; only a very small quantity is required when used alone as a print wash. If used in conjunction with soap, it increases the stability of the soap and prevents formation of soap curds. Oratol requires less water, rinses rapidly, and leaves the fabric with improved hand.

Ask our representative for full details about economical Oratol L-48. Or write today for technical data and your generous free sample for testing.

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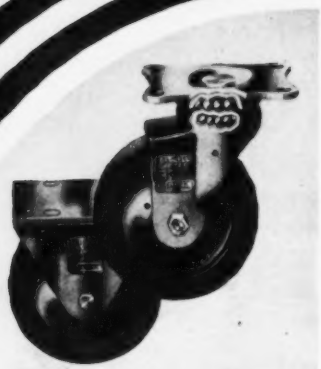

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Reworked Wool

(*Continued from page 141*)

the shade, it is essential to err on the light side in the first dyeing process. When shades turn up on the light side after burl dyeing, it is always possible to darken by cold tinting. Navy blues, for instance, with Indian Yellow or Orange II; browns, with Sulphon Cyanine, etc.; or if chrome has been used, with a small quantity of hematine crystals.

Lighter shades are often dyed with the one-bath, union-dye method. With these shades, it is usually necessary to give a preliminary strip, using a Rongalite type with acetic or formic acid, followed by neutralizing with soda ash or ammonia.

Union dyeing is carried out with the addition of glauber salt or common salt only. In the case of tans, grays, etc., the addition also of sulphated fatty alcohol assists cleanliness. The boil is reached in 30 to 45 min., steam is turned off, and a 30-min. run follows without steam before taking a sampling.

The dyes used for this method include both neutral wool dyes and direct cotton dyes, or direct cotton dyes which dye both the wool and the cotton a solid shade.

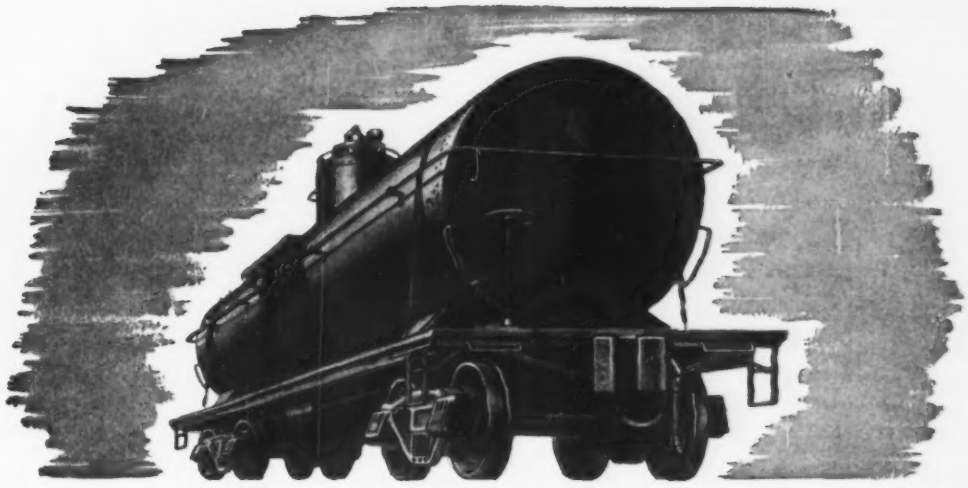
Useful neutral-dyeing wool dyes include such types as: Indian Yellow, Polar Yellows, Orange II, Milling Orange, Polar Orange, Fast Acid Violet A2R, Benzyl Violet 5BN, Wool Red 2B, Azo Rubinole, Polar Reds, Coomassie Brilliant Blue FF, Alizarine Light Blue R, Alizarine Sky Blue B, Wool Fast Blues, Sulphon Cyanine, Erio Viridine B, Xylene Blue AS, Sulphonine Black B, etc.

Direct cotton-dye types include: Chrysophenine, Sun Yellow, Solophenyl Yellow, Direct Blue 2B, Direct Sky Blue GS, Solar Blues, Chloramine Red B, Chloramine Fast Scarlet 4BS, Chloramine Fast Red F, Chlorazol Orange DS, Direct Violet R, Melantherine BH, Carbide Black E, and Diphenyl Fast Black B.

Special mention should be made of dyes of the Chrysophenine, Chloramine Red B, Chloramine Fast Red F, Carbide Black E types, which give good solid results on both wool and cotton.

When the cloth contains a high percentage of cotton, it is often advantageous to union-dye first, followed by cold staining with direct cotton dyes. In this connection, a washer fitted with steam supply (a steam box being fitted at the rear under the draft divisions) is the best machine to use. Both processes are thus performed in the same machine.

Finally, in the darker shades, it is often good practice to burl-dye the



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FOR COTTON

Non-staining Twitchell Oil 7250 for all finishing, produces fastest rewet, softest hand. Oil 7240 for fast wetting back, medium hand.

Twitchell Oil 7231 (formerly 3X—the long established standard rewetting agent) has the least effect on hand. All three recommended for finishing regular or Sanforized fabrics, for slashing.

FOR RAYONS

Twitchell Oils 7681, 7685, 7687 adjusted to viscosity specifications, to lubricate knitting and weaving yarns and Twitchell 7620, a coning oil for nylon yarn, are non-staining, easy scouring oils. For crepe yarn soaking, Twitchell 7810 is compatible with starches, gums and other sizing agents.

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Emery 2510 Propylene Glycol Monostearate
Emery 2410 Diethylene Glycol Monostearate
Emery 2221 Glyceryl Mono-oleate
Emery 2301 Methyl Oleate
Emery 2302 Propyl Oleate
Emery 2230 Glyceryl Trioleate
Hyfac 2130 Hydrogenated Fish Oil Glyceride

FATTY ACIDS

Emersol 120 Standard Stearic Acid
Emersols 210 & 220 Elaine (Oleic Acid)
Emersols 211 & 221 Low Titre Elaines
Emery 621 & 622 Coconut Fatty Acids
Hyfacs 410 & 420 Hydrogenated Tallow F.A.
Hyfacs 430 & 431 Hydrogenated Fish Oil F.A.

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pieces first (using myrobalans and iron), followed by a good wash, and then by union dyeing in the dye kettle in the normal manner.

Most of the cloths designated as heavy woolens find use in the making-up of men's overcoatings, both for civil and military wear. Standard shades are customary, facilitating the development of a reproducible dye formula and providing a basis for dyeing bulk lots per shade.

TOE Carding

(*Continued from* page 149)

cleaned two or three times a day, the filters choke up, slow down the flow of air and cause back pressure against the dust-removal fans in the machines.

BAGS CLEANED EACH 8 HR. Another mill finds it necessary to clean the bags each 8 hr. to avoid back draft. This mill reported that less dust seems to be taken from the cotton since the return-air system was installed. As a result, the card room is more dusty than it was. Another objection reported by this mill is that fine dust passes through the filters and bags and is blown into the opening room.

In general, two conditions seem to be necessary in order to make the return-air systems work satisfactorily: (1) keep the bags cleaned regularly (at least once each 8 hr.), and (2) use a condenser and collection bag for each fan in the machine.

Several mills reported that they had tried, or are trying, a system in which several fans in different opening machines fed to a central condenser. In every case where this method was tried, the system was not satisfactory.

The use of yardage knock-offs on finisher drawing frames will not cause the run out of a slubber creel to be so even that piecing-up can be avoided, it was reported by several mills. The amount of pieced-up sliver can be reduced, however.

Dwight Mfg. Co., Alabama City, has 18 drawing frames equipped with yardage knock-offs. When a slubber creel runs out, the slubber is stopped and all 96 ends are creeled in. The pieces left in the empty creel cans are then pieced up. They amount to 12 to 14 lb. of sliver.

Before the yardage knock-offs were installed, piece-ups amounted to as much as 70 to 80 lb. per creel.

Avondale Mills, Pell City, also uses yardage knock-offs on drawing. On an 80-spindle slubber creeled running, piece-ups made by a good slubber tender amount to about 1¼ cans of sliver; average is 1¼ to 1⅞ cans.

ROVING-FRAME MAINTENANCE. The last question on carding asked for in-

It's What Hooker Sulfides Haven't Got that Make Them Important to You

COMPARATIVE freedom from heavy metal salts, the negligible amount of iron,—a maximum limit of 5 ppm in Hooker Sodium Sulfhydrate, and a maximum limit of 8 ppm in Hooker Sodium Sulfide—are reasons why these Hooker Chemicals are so popular among dye chemists.

This high purity, consistently maintained in every shipment, makes them especially desirable for use as reducing agents. These sulfides are employed with excellent results for selective reduction of one of several nitro groups in the same molecule. To eliminate the possible harmful effects of iron, Hooker Sulfides are extensively used in the preparation of aminophenol, many of the anthraquinone dyes, including acid, and nitro compounds such as acid Alizarin Blue SE, Developed Dyes, Rapidogen Dyes and Intermediates.

Another way that Hooker Sulfides are used is for the introduction of sulfur in dye manufacture. They also serve as solvents in the removal of excess sulfur from dyes produced by a sulfur fusion.

Because of their high purity, the need for settling, decanting and filtering is minimized and in many cases eliminated altogether, saving time and inconvenience.

Let Hooker Sulfides improve your products, save valuable time and lower your costs.

SODIUM SULFIDE, Na_2S, a light yellow colored solid in flake form, soluble in water, slightly soluble in alcohol, insoluble in ether.

Analysis

Sodium Sulfide	60 to 62%
Sodium Chloride	1.5% Max.
Sodium Salts	2.0% Max.
Iron	8 ppm Max.
All Other Metal Salts	1 ppm Max.
Water of crystallization	36.5 to 34.5%
Shipping Containers	*Drums 90 and 350 lbs. net.*

SODIUM SULFHYDRATE, NaSH, *a light yellow colored solid in* flake form. Soluble in water and alcohol, insoluble in ether.

Analysis

Sodium Sulfhydrate	70 to 72%
Sodium Hydroxide	0%
Sodium Sulfide	0.25 to 2.5%
Sodium Chloride	*0.4 to 0.8%*
Other Sodium Salts	0.04 to 0.4%
Iron	5 ppm Max.
All Other Metals	1 ppm Max.
Water of Crystallization	28 to 26%
Shipping Containers	Drums 90 and 350 lbs. net.

Hooker's Technical Staff is ready to work with you on the application of Hooker Chemicals to your processes. Technical Data Sheets and samples of Hooker Sulfides will be sent you when requested on your letterhead.

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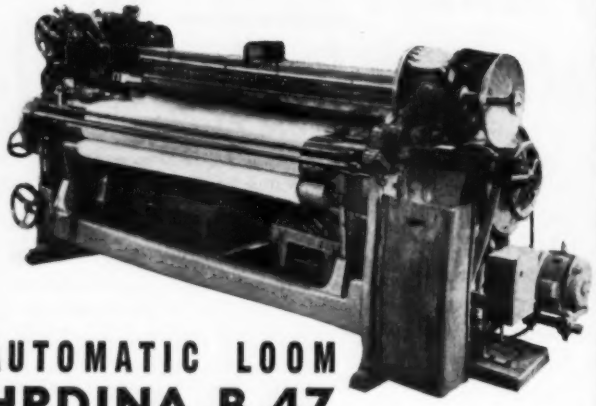

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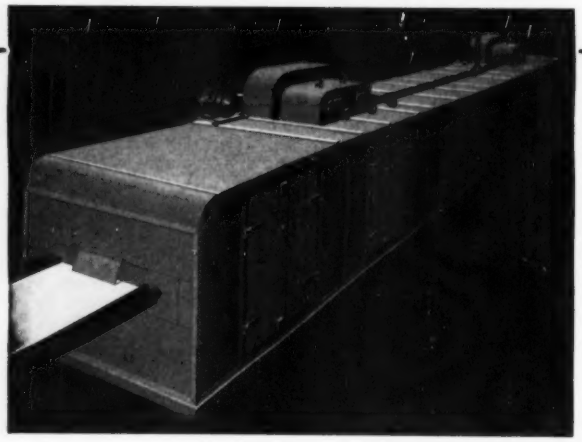

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formation on systems of maintenance on roving frames.

Mt. Vernon Woodberry Mills, Tallassee, reported that it completely dismantles each roving frame every 8 months. The frames are aligned and leveled, all worn parts are repaired or replaced, and the centralized-lubrication system is checked to see that all bearings are being properly lubricated.

One mill reported that it does a complete overhaul and cleaning job on each roving frame each 12 months. In addition, the steel rolls are scrubbed every 6 months.

Fairfax Mill, West Point Mfg. Co., overhauls roving frames every 18 months. The overhaul job includes aligning, leveling, thorough cleaning, worn-parts replacement, and spacing and plumbing spindles and bolsters. In addition to this periodic overhauling, the mill removes all top rolls and steel rolls every 8 or 9 months. The rolls, roll necks, stands, carriage rail, and step rail are cleaned and all bearings are greased.

A weekly inspection of roving frames is made by section men and an inspection report filled out and turned in. The report is kept as a means for checking on the frame and the section man.

Swedish Mill

(Continued from page 123)

The communication and recording device was made by L. M. Ericsson Telefon Aktiebolaget, Stockholm, Sweden.

At the end of each day the down time attributable to each cause is transferred to a master chart which shows the total down time in minutes for each cause over a period of weeks. Thus the major causes of stops in each machine can be seen visually and corrective steps taken. Total down time for all stops is also charted.

MAINTENANCE. Systems of maintenance of Swedish plants are outstanding. In the full-fashioned knitting mill, two machines are stopped at all times. These are completely stopped, cleaned, reconditioned, reassembled, set, and put into operation again. Worn parts are replaced as necessary.

While floors in the plant are as old as the building, they are maintained in an extremely clean condition and look like new. The waxed floor surface is almost mirrorlike.

Fluorescent lighting is used in the full-fashioned knitting department. Fixtures are equipped with egg-crate louvers to reduce direct glare from tubes.

An air-conditioned knitting room and humidified yarn storage provides

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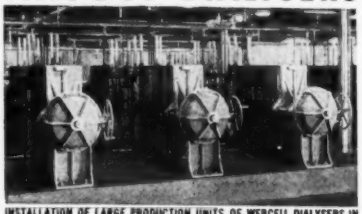

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Colleges, Universities and Research Laboratories are now using the Webcell Laboratory Model for the study of dialysis and are conducting experiments in Recovery, Removal, Purification and Separation of solutions. The results obtained can be closely translated into terms of the expectancy from the larger production units.

For further information, write for bulletin 58.

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perfect control of atmosphere and yarn.

Even as American plants, the Swedish mills have a labor shortage and turnover problem. One outstanding measure taken to make the jobs more attractive to women with children is a splendid nursery and day school in which children may be left in the best of care while the mother is at work. This school, occupying a large building specially built for it, is well-equipped for entertainment of the young ones.

TOE Weaving

(*Continued from page 133*)

that since the system was installed there has been a noticeable over-all improvement in weaving conditions and that weave-room production has increased.

A lower and more constant room temperature and much higher weaver morale were cited by one mill as advantages of using an air-changing system. A disadvantage pointed out is that the room gets dirtier.

WEEK-END HUMIDITY. Controlled humidity during the week-end shut-down is maintained by only one mill that reported on this question. The advantage pointed out by this mill is that the week-end humidity prevents the warps from drying out. The disadvantage is that a close watch is necessary to keep the warps from mildewing.

The majority of mills reported that humidifiers are started up 2 hr. before the looms are started up for the next week's run.

The cheapest method of stripping quills was said by ten mills to be machine stripping. Four mills use both hand and machine methods, preferring in most cases to strip coarse yarn by hand; two mills use only manual stripping; and two use motor-driven reels.

Mill A reported: "Yarn numbers range from 13s to 24s. We strip by machine. We have approximately 1,600 to 1,800 broken quills per week, but we figure only about 1% of these are broken at the quill machine. The machines are fed by hoists and are set high. Quills are dropped onto a quill box and are pushed back to the spinning room."

Mill F reported: "We think the cheapest method would depend on the yarn count. On counts of 12s and coarser, we would think that from the standpoint of efficiency and damage to quills it would be better to use a large reel for unwinding the thread waste or bunches from the quills. On yarns finer than 12s, we think it would be

CHEMICAL DEVELOPMENTS

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SIZE

THAT IMPROVE FABRIC LIFE, APPEARANCE & VALUE

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Brytex No. 745 Gum

is a printing thickener for vat colors that will produce the optimum color value at low cost. It is a smooth, free-flowing paste, suitable for the printing of small objects and large blotches as well.

Brytex Waxemul

produces a soft, smooth finish; is applicable to any and all fabrics. A very workable and economical softening agent. May be combined with starches, gums and similar finishing materials.

Brytex Conditionol W

static inhibitor for wool and blends with synthetic fibres. Efficiently eliminates static with no extra operations or equipment.

Brytexol N-7

an all-purpose penetrant producing valuable results in kier boiling, urea-formaldehyde finishing, and dyeing. Adaptable to any solution alkaline or acid. Concentrated, economical.

Warp Sizes

Brytex Spun Size O

a highly soluble gum for sizing spun yarns including blends of acetate and rayon fibre. Maintains a penetrated strong pliable protective coating for the yarn that reduces shedding and warp breaks.

Brytex Lubrene

a plasticizing lubricant for cotton, spun rayon and filament yarn sizing. May be used along with starch, gelatine and similar sizing materials. A concentrated material that will show greatest economy. A highly soluble oil that has proved very workable in the slashing room.

Brytex Hygel

a high gel strength size for filament yarns. A concentrated dry size, non-foaming. Dissolves quickly and completely. Absence of impurities or adulterants facilitates size removal and finishing.

Brytex Worsted Gum

designed expressly for sizing single worsted yarns. Produces a strong flexible film that efficiently binds fibres and retains fullness of yarn. Increases weaving efficiencies and washes out readily.

FULL INFORMATION ON OTHER *Brytex* PRODUCTS AVAILABLE IN BOOKLET "M"

BRYANT CHEMICAL CORPORATION

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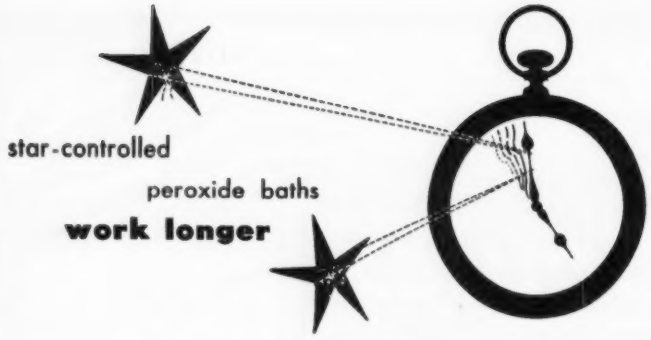

Star Silicate used as an assistant in bleaching holds on to the oxygen molecules in the peroxide bath until release is needed for bleaching. Leading mills find that Star Silicate increases their output and at the same time decreases cost. In either standing bath or saturator systems, Star Silicate extends the working life of the bleach bath.

You can be sure when you look at Star Silicate's brilliancy that here is the key to controlled bleaching. Star's purity makes it stable to dilution and heat, and its reserve alkalinity increases the working life of the bath. Send for a free copy of booklet "Textile Processing with PQ Silicates".

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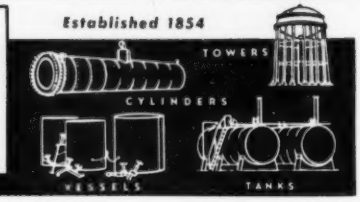


to our advantage to use a machine for taking the strips off.

"Our machine is equipped with a hoist and chute. We place one of our doff boxes under the machine, and when the box is full we replace it with an empty box.

"On some checks we have made, we find that our machine in stripping 15s yarn damaged 0.012% of the quills."

COST OF STRIPPING. Mill G reported: "We strip by machine. The cost is $0.1501 per 1,000 quills stripped. Yarn numbers range from 17s to 39s. Broken quills run 15 per 50,000 quills, or 0.03%."

Mill J reported: "We have one quill-stripping machine. We use one operator to take up quills and operate the machine for 342 looms, at a cost of approximately 2.2¢ per loom per 8 hr. Quill cans are dumped into doff boxes, and six doff boxes are placed on a truck and carried to the quill machine, where they are dumped into the pan on the quill machine. After the quills are stripped, they are delivered to the quillers.

"If the quill-stripping machine is operated by experienced operators and is kept in good mechanical condition, the percentage of broken quills will be negligible."

Compressed air is used by most mills to clean overhead, according to reports. Of 16 mills that answered this question, nine blow down, three brush down, and four combine blowing and brushing. Overhead is cleaned weekly in 12 of the 16 mills, daily in two of them, every two weeks in one, and every four weeks in one.

Humidity in a jacquard weave room helps the running of the work but tends to damage the looms, it was reported.

Mill C reported: "We find that humidity in our jacquard room would help the running of the work, but it damages the harness. We have an air-changing unit that does a fairly good job. Under ordinary conditions, it will keep temperature around 86° F. with a relative humidity of 55%. We do not try to maintain our humidity nor our temperature over the week end.

CORDS UNTWIST. "We have used Lingo harness cords in our jacquard looms and had trouble with them untwisting in damp weather after they had been tied up for a long time. The only remedy we found was to replace them. Heavy dressing will prolong their usefulness. We now use steel Lingos and find they are better.

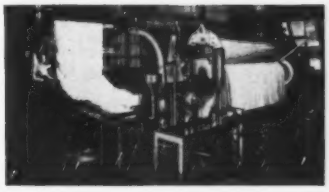
"A weaver can handle 40 equivalent warp stops per hour and maintain production with the desired quality. The

Memo on Modernization

Memo on Modernization

HUNTER

CONTINUOUS WASHERS



Mean Continuous Savings for this Modern Mill

Another large woolen company is now enjoying the economies afforded by the unique Hunter Continuous Cloth Washer. This finishing equipment is typical of the design thinking that goes into all modern Hunter units. It is years ahead of any other washer on the market. For instance, reports show it to be saving 50% on labor alone. Further, it saves millions of gallons of water per year with resultant savings in water softeners and steam. It requires but one-third the horsepower and one-half the floor space needed for equal production from Dolly washers. Water current is counterflow to the goods, thus they constantly enter cleaner water at each washer station. This action reduces the amount of soap required and guarantees perfect results.

This Hunter Cloth Washer is very versatile and will handle all weights and classes of goods. Write to Hunter stating your requirements — a guaranteed production story is yours, without obligation.

Write for your free copy of Bulletin CCW. It gives complete mechanical and production details.

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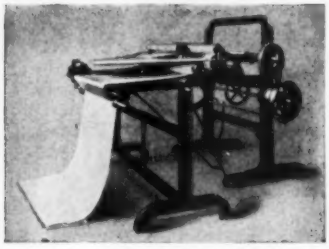

Doubling and Winding Machine

For woven cotton goods and medium to heavy rayons. This machine doubles cloth neatly and evenly lengthwise so as to bring the selvages together, and at the same time measure it and wind it in a package for the market. Can be fitted to wind the doubled goods on flat cardboards or round paper tubes.

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James A. Greer, Southern Manager
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following is an example of the stops we can handle:

18 to 25 warp stops—or 50%
12 to 16 filling stops—or 36%
1 to 2 mechanical stops—or 2%
4 to 6 unknown stops—or 12%.

"The fabric we weave contains 14s warp and 13s filling, with 36 picks per inch. It is run on a wide Draper dobby at 130 p.p.m."

Mill J reported: "We try to maintain 85° F. temperature, 55% relative humidity but do not attempt to hold this condition over the weekend.

"When the outside temperature makes a quick change from warm to cold or the humidity changes from dry to moist, Lingo harness cords tend to untwist if the outside air is permitted to reach them. Once these cords untwist, the only method that we have to correct the condition is to get the temperature and relative humidity back to normal as quickly as possible.

"Some of our looms are tied with 20/6 twisted linen cords. We are changing over as heads are retied to 30/9 braided linen twine, which has proved more satisfactory from the standpoint of the cords untwisting. We are also using a collet wire to help in correcting this condition."

Trouble with needle boards swelling when humidity was put in the jacquard room was reported by Mill Q. Often the swelling was so great that the boards had to be removed. There was also a tendency for the needles and springs to gum up and stick. The only remedy was said to be to remove the needle boards and clean them.

This mill has been running a few humidifiers in the jacquard room and is now installing a central-station air washer. The washer is expected to maintain about 60% relative humidity.

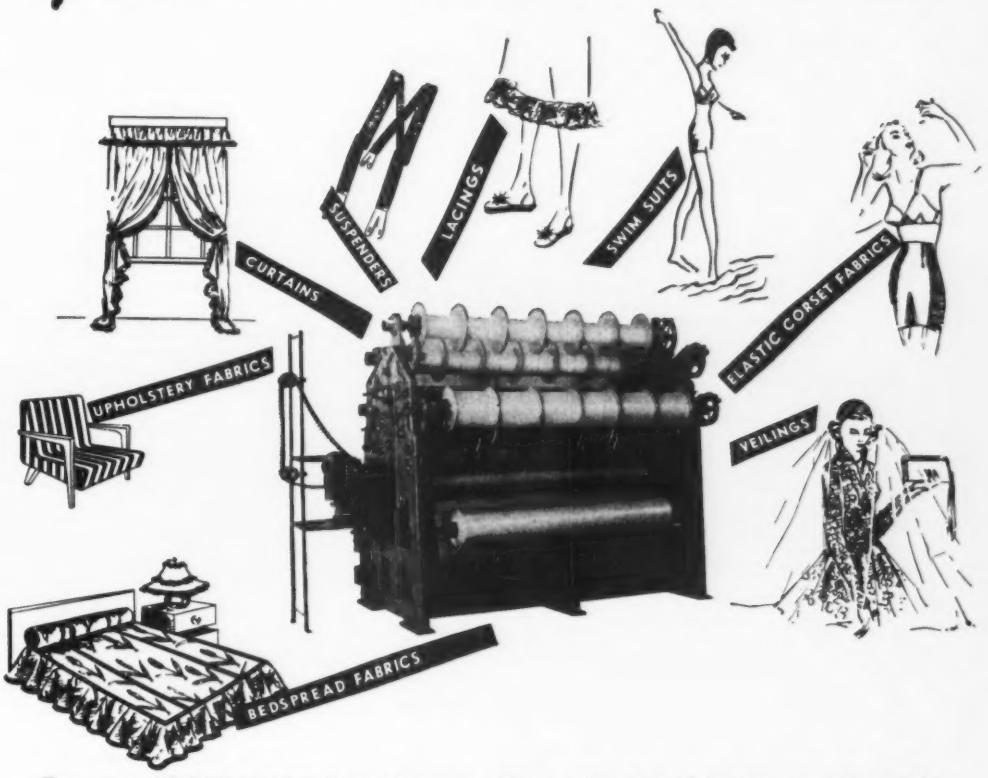
World Round-Up

(Continued from page 111)

and modernization of machinery, a more careful sifting of raw materials, and introduction of work brigades and pioneer competitions. The efficiency of machinery was claimed raised from 40 to 73%, on the average. The Goldberger Mills, at Kelenfold, achieved 84.2%. While formerly three to four looms were tended by one worker, now the loom assignment is six. Yarn breakage was brought down from 3.5 breakages per 10,000 warp ends to 2. In the Dreher Textile Works, installation of 8,832 spindles from Switzerland was to have been completed by Dec. 31.

The most important textile branch in Hungary is cotton. In view of generous raw-material supplies from USSR in the framework of the Hungarian-Soviet Trade Agreement, cotton mills are well supplied. From Egypt and Brazil, raw cotton is also imported. The three-year plan envisages the investment of 45,000,000 florins ($1 = 11 fl., 65 f.) for the textile industry in the first year. Altogether 80,000,000 florins are envisaged for cotton

A Variable and Profitable Producer REINER KAYLOOM



Turns out, with high speed and precision, merchandise that resembles either woven goods or knitted fabrics, for purposes as different as lacings, veilings, nettings, and upholstery.

Pattern control in this Reiner Kayloom makes possible designs that include fillingwise or warpwise stripes, plaids, diagonal or square checks, and other effects, in a limitless variety.

The machine is built for the use of five guide bars. It can also be delivered as a plain Raschel machine. In the warp knit line, Reiner also manufactures Tricot Machines, Simplex Machines, and Creels and Warpers for all requirements.

Write for the richly illustrated Reiner catalog, or better still, arrange with us for an inspection of this fine machine at a nearby mill.

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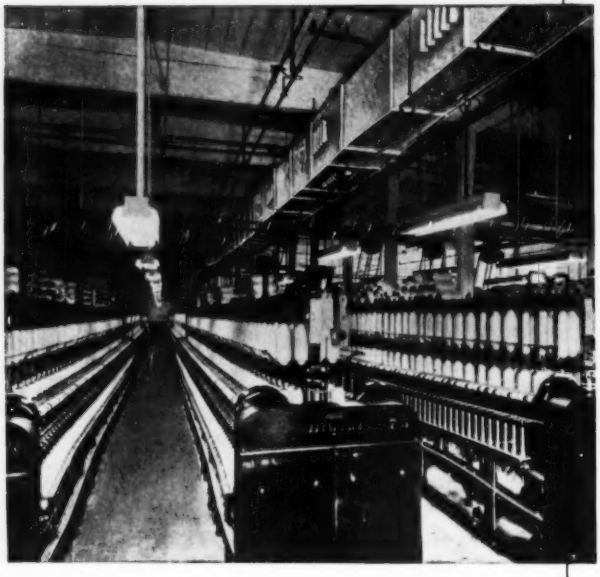
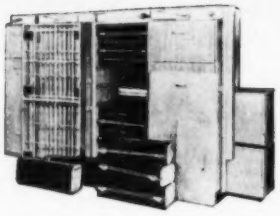
Soot and dust can't invade this spinning room





AAF Electro-Cell provides super-clean air to safeguard product quality

MILL operators have found that clean air returns a clear profit in the form of fewer rejects and seconds. That's why the air entering this spinning room is not only conditioned for temperature and humidity but completely free from damaging soot and dust. And here, as in so many mills, the job of delivering this super-clean air is entrusted to AAF Electro-Cell Electronic Precipitators.

In addition to its high efficiency, the Electro-Cell has many design features that appeal to the practical operating man. Removable collector plate cells permit manual washing and re-oiling in place, removing for cleaning in a special tank or automatic washing, drying and recoating with minimum interruption to operation.

Electro-Cell's sectional construction cuts weight, reduces number of electrical connections, protects wiring from dirt and water. Full height ionizers minimize electrical losses, reduce ozone and simplify ionizing wire replacement.

The complete story of Electro-Cell's high efficiency and low cost operation is contained in Bulletin 252. Ask your local AAF representative for a copy or write to—

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AAF
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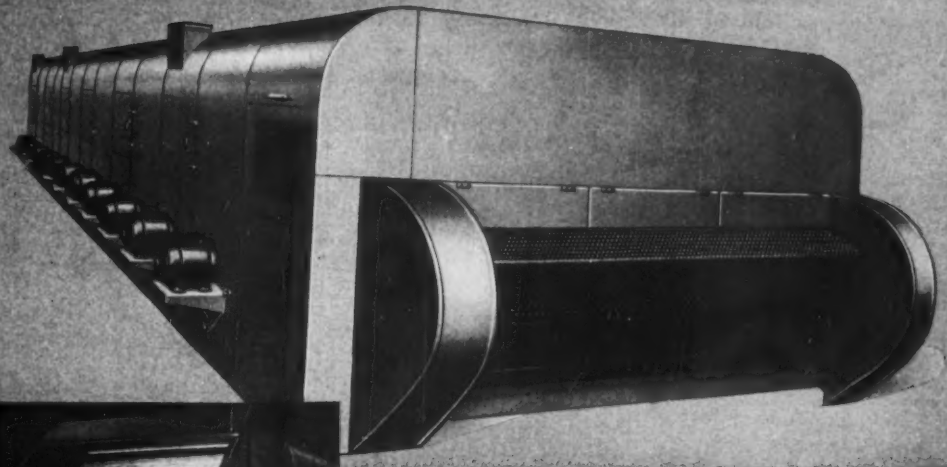
SARGENT'S STOCK DRYER

MODERN—AUTOMATIC



The new, Fisher Type Rotary Feed which has replaced the conventional spiked Apron Type Feeder

for Drying Wool, Cotton, Rayon, Other Synthetic Fibres, Rags

The Sargent Automatic Stock Dryer meets all modern requirements of textile mills for fast, trouble-free production, at minimum cost.

Its high-velocity, pressure-type fans are directly connected to standard frame, ball-bearing motors. The machine is vibration-free. Stock is carried on the Conveyor of heavy-gauge steel sectional flights which are built to specifications for the type of work required. The Conveyor presents a constantly smooth surface, traveling on a variable-speed, covered chain drive. Some of its other features include: highly efficient heating coils; low steam consumption; heavily insulated removable hinged panels for easy inspection of work in travel; thermostatic controls; ease of cleaning; a minimum of maintenance cost.

The machine's streamlined design affording a maximum area of drying surface, requires unusually small floor space for the volume of its high production.

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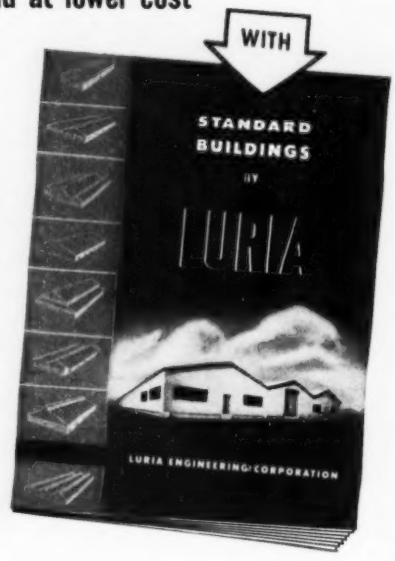

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LAZENBY WINDERS

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Send us a small supply of your Asbestos Yarn and we will wind and return with Testwind Report and Catalog.

F. A. LAZENBY & CO.
3106 ELM AVE. BALTIMORE, MD.

alone. The cultivation of cotton in Hungary is planned on a large scale in order to make the country self-sufficient. So far, 75,000 florins have been invested in cotton cultivation, for which the seeds are imported from Russia. Experiments are in progress and prospects are said to be most promising. Hungary's cotton requirements on completion of the three-year plan are estimated at 25,000,000 kilograms and at 55,000,000 kilograms at the end of the 5-year plan which follows. Hungary now has four large cotton-spinning mills, and 360,000 spindles.

The output set for wool cloth in 1949 is 18,000,000 meters against 14,000,000 in 1948. Hungary produces 2,500,000 kilograms of raw wool, which when mixed with 50% of other materials covers needs for 2½ months. The rest of the raw material is imported, chiefly from the Soviet Union. Of the 18,000,000-meter output, 800,000 are for export in the form of fine "camyarn" cloth. The government plans a drive in sheep farming to remedy the raw-material shortage. Only wool cloth is exported, since the entire yarn output is processed locally.

The acute raw-material shortage in synthetics is gradually abating. Experiments are being carried on to produce cellulose from reeds and corn stalks, which show satisfactory results. Only one plant, Viscosa Works, produces synthetics. At the beginning of 1948, requirements had partly to be met by means of imports. Hungarian textiles are exported mostly to USSR, Sweden, and Great Britain.

ITALY

By Diego Straniero

The Italian textile industry possesses a potential which has never been fully utilized even in periods of activity, as its capacity exceeds the opportunities offered by home and customary export markets.

The problem is not that of enlarging the plants, but of bringing them up to date and of finding new markets to provide full employment for 600,000 workers. Italy also wants a credit item on her balance of international payments when ERP help will cease in 1953.

Availing themselves of the large profits set aside during the early postwar period, Italian textile manufacturers have been attending to the renewal of their machinery, with which they are well supplied by Italian makers of textile machinery whose potential also is largely in excess of the home demand. The Government has drawn up plans for modernization of textile mills, which involve an outlay of $380,000,000 during the four years of ERP. ERP estimates that Italian exports from the several branches of the textile industry will total a value of $380,000,000 by 1953. In the first nine months of 1948, these exports had, however, already attained a value of $253,000,000; and, as they increased still further in the last quarter, it seems likely that the target set for 1952 may be reached even now.

This revival of export trade is undoubtedly the most interesting feature of the present situation in Italian textiles. Progress is still slow in the case of cotton and wool fabrics, but exports of cotton and of wool yarns and of synthetic fabrics have already nearly doubled the prewar figures. Exports of synthetic fibers, the most important item in value of Italian textile exports, will certainly attain this year the previous record of 1938.

Heavier exports, however, have not yet

only WEST LASTINCOTE was chosen

TO COVER 750,000 SQUARE FEET OF FLOOR SPACE IN ROBBINS CLOTH MILLS 3 BIG PLANTS!

"CONCLUSIVELY BEST BY COMPETITIVE TEST" Because heavy textile traffic is *tough* on floors—the floor finish has to be even tougher! . . . So in experimenting with a floor finish for its maple floor in its new plant in Aberdeen, North Carolina—the Robbins Cloth Mills insisted first of all that it be greatly *wear-resistant*. Besides which it had to possess a hard, long-lasting lustre—prove easy to apply and maintain—and to accomplish the greatest possible coverage at minimum cost.

"Test panels" of a half-dozen competitive floor materials were taken and studied—*and only WEST LASTINCOTE made the grade on ALL vital counts!*

A convincing enough test for LASTINCOTE? Ordinarily, yes—but not for the company's other two plants! Each, in turn, tested LASTINCOTE separately . . . *the result?*

The total floor area of all three plants, comprising 750,000 square feet, is beautifully protected by three coats of WEST LASTINCOTE.

What LASTINCOTE is!

LASTINCOTE is a hard, brilliant finish particularly created for textile floors of every type. A clear sealer, it has extra penetration power—seeps deeper into every floor-pore to *build in* added resistance and durable beauty. Alkali soaps and other floor hazards won't affect it—nor will most acid solutions. Easily applied with a lambs-wool applicator, it adds trouble-free maintenance to extremely low-cost coverage.

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Every year, from over 100 countries, trade buyers gather at the British Industries Fair. The Chamber of Commerce in Birmingham, and manufacturers from every part of Britain, join with the British Government to welcome them.

At BIF 1949, from 2–13 May, three thousand exhibitors will display the latest developments in thirty groups of allied trades. The leading men of international commerce are invited to attend the world's greatest assembly of national products.

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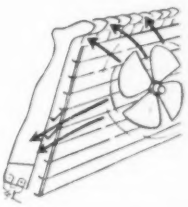
The top quality results and high production that are obtainable from Proctor automatic boarding equipment are the results of no one feature of operation, but rather of a combination of several.

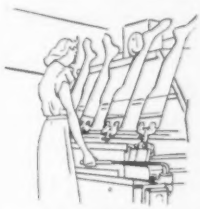
For fine lightweight women's stockings the temperature may be kept at a moderate degree of heat and when heavier weights are being dried the temperature may be raised accordingly. Automatic temperature control instruments are optional equipment and may be selected from a number of very reputable makes that are readily available.

Recirculated warm air applied to the outside of the hosiery is the secret of perfect drying attributed to the old dry box, wooden board method. The same principle is embodied in the Proctor machine, but the Proctor method is superior because its boards pass on a track in an upright position in front of the dryer fan, and there are, therefore, no middle or end stockings to receive different air current treatments. In the drying compartment of the Proctor machine, each stocking is subjected to the same even drying as the next. Circulating warm air is so baffled that it is directed at the feet and tops of the hosiery, where drying is most needed.



EQUALIZED CIRCULATION

The speed at which the boards pass through the dryer may be set by the boarders. This speed regulation, plus the fact that the hosiery is dried primarily by controlled warm air circulating over the outside of hosiery, is a certain safeguard against overdrying or baking.



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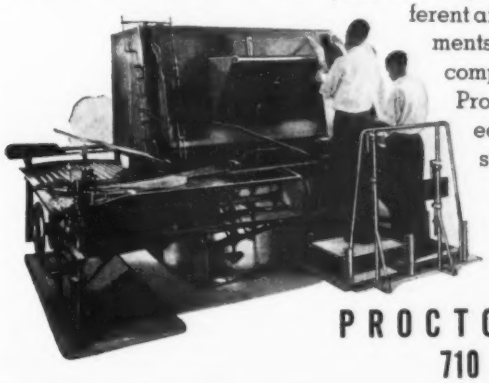

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending

PROCTOR & SCHWARTZ · INC ·
710 Tabor Road · Philadelphia 20 · Pa ·

led to heavier production. So far, the manufacturers have drawn mainly on stocks accumulated during 1947 as a result of the stagnation on the home market to which the deflationist policies adopted by Prof. Einaudi had led. Now, that the recent agreement reached with England has raised the rate of sterling exchange, it may be expected that there will be a further expansion of Italian sales abroad. This event should lead to a considerable increase in output which stands now around 80% of prewar level.

The output of textile machinery in 1948 amounted to about 40,000 tons of which at least 10,000 were exported to Argentina, Sweden, India, and other markets. A large part of the 1949 output is already booked for the domestic market and for export.

THE NETHERLANDS

By Paul Catz

During 1948, the Dutch textile industry slowly made further headway. In October, cotton spinning mills worked at 80% of the 1938 rate, against 69% in December, 1947. Corresponding figures for cotton-weaving mills were 74% against 66%; for wool yarns, 146% against 133%; for woolens and blankets, 157% against 136%; for knit goods, 119% against 98%; for hosiery, 136% against 110%. Rayon production is now far over the 1938 level.

Several cotton-weaving mills were considerably enlarged in 1948, several were modernized (Swiss and American machinery), three new worsted plants were established, and other mills were set up for production of upholstery, curtains, mattresses, etc. On the whole, spinning capacity (cotton and wool) is still much too small. The same applies to rayon, although to a lesser extent.

The rayon-staple output of A.K.U. has materially increased and is nearing the volume of filament production. This firm's rayon tire-cord plant is working at full capacity. The Dutch rayon trade is now the fourth largest rayon exporter in the world.

All textile industries in the Netherlands are concentrating on exports, and no early increase in Dutch textile rations is anticipated.

NORWAY

By Arne Solem

In the work of modernizing the Norwegian textile industry, the production of goods which agree with climatic conditions of the country is taken into special consideration. The textile industry is also regarded as a factor in stabilizing employment because of its special character and the way in which it is distributed geographically.

There is great demand for modern textile machinery and more rationalized methods in the manufacturing processes, which would lead to a considerably bigger output and better balance between cloth and yarn production.

Of new plants which have come into production in 1948, one rayon-wool mill has a capacity of 18,000,000 lb. of goods a year, and a merino spinning mill has a capacity of 1,000,000 lb. which is later to be extended. For several years, Norway has been building new and extending old cotton mills. A textile-finishing plant is under construction.

The following table gives the production of yarn in 1938, an estimate for 1948, and

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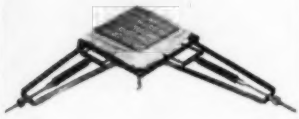

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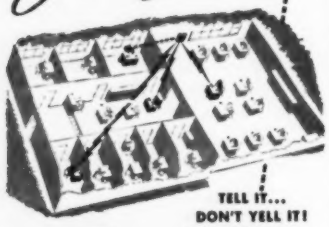

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plans for the 1952-1953 period (under the so-called four-year plan).

	1938	1948	1952-53
	tons	tons	tons
Wool yarn	5,000	7,000	8,000
Cotton yarn	2,900	2,500	8,500

The production of rayon will be increased from about 400 tons before the war, to about 1,000 tons by 1952-53. A new plant on acetate rayon, with a capacity of 1,200 tons, has been planned; but no decision as to building has yet been made.

The gross investment in industry for the period 1949-1952 is estimated at 3,000,000,000 Norwegian kroner ($600,000,000) of which modern machinery and equipment take the greater part. Division is as follows: new plants and buildings, $160,000,000; machinery and equipment, $320,000,000; maintenance and repairs, $120,000,000.

The modernization and extension which have been planned specifically for the textile industry are calculated to increase the value of its production by about $40,000,000 and to require an increase in import of wool and cotton. The four-year plan, 1949-52, calls for $14,000,000 in new buildings and $32,000,000 in imported machinery and equipment of which about $4,000,000 are to come from U.S.A. and the rest from participating ECA countries.

PORTUGAL

By J. Herbert Richardson

Exportation figures for Portuguese textiles do not reflect the enlarged capacity of the industry, which is now in a position to supply home and colonial markets as well as some foreign markets. Government restrictions on exportations are now being lifted. Cotton goods are shipped mostly to the Portuguese African colonies, but some go also to South Africa and Morocco. Imported wool comes mostly from Australia and South Africa. Most of the imported cotton comes from Portuguese colonies, the rest from Brazil.

During 1948, a few small knitting plants were built, and one large linen plant was set up to the north of Oporto for which the machinery was imported from Great Britain.

Nylon yarn is being imported from the U. S., Canada, and Great Britain and was used in Portugal for the first time in 1948. Lastex is also obtainable after an absence of several years. Wages in wool mills have been increased by 15%.

RUSSIA

By Andrew Steiger

For the Soviet textile industry, 1948 was termed the "third decisive year" of the current five-year recovery program that was launched in 1946 with the target set at a gross output of 5,000,000,000 meters of cloth, about 90% cotton goods, for 1950. In 1948, the industry continued to make good headway toward planned goals.

A word about the plan—Envisaged under the postwar five-year program was rehabilitation of war-demolished plants. As a result of war ravages, 400 textile mills were laid in ruins, 1,519,000 spindles and 30,000 looms put out of operation, and the industry's 808,000 workers reduced to half that number. These figures give some indication of the staggering rehabilitation work faced by the industry in 1946. Also envisaged in the plan was construction of new mill capacity, mainly in the eastern areas of the country, and tremendous expansion of the industry's synthetics branch. Thirteen synthetic-fiber plants with aggregate capacity of about 210,000,000 lb. were earmarked for construction in the five-year period. Synthetic staple was to increase in output 9.6 times, synthetic filament 4.5 times above prewar. Total textile-mill capacity in the Soviet Union was to reach 8,000,000 spindles by 1950, which meant that 3,300,000 spindles and 63,000 looms must be installed during the five years of the plan ending in 1950. Gross output was to surpass prewar levels by a substantial margin. A decade ago, in 1938 after completion of the second prewar Stalin plan, Soviet cotton mills turned out 3,491,000,000 meters.

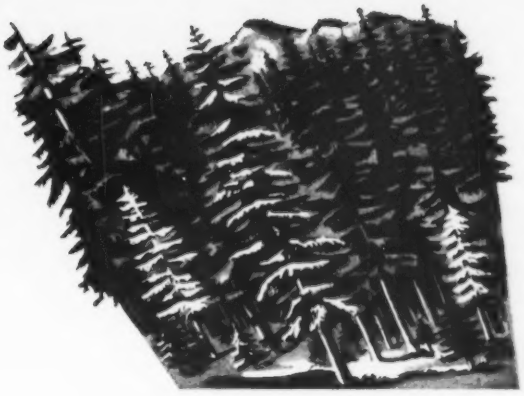
Progress attained in the first two years of the planned program made it possible to surpass the prewar level of output during 1948 in the woolen and silk branches, which produced more cloth than at any time in the history of the native industry, and were operated on boosted output schedules with the object of completing their entire five-year program during 1949. The program originally called for an annual output of 159,400,000 meters of woolens and 141,000,000 meters of silk fabric by 1950.

A close runner-up in recovery was cotton-cloth output, which accounts for the bulk of Soviet production and is scheduled to reach the annual figure of 4,686,000,000 meters by 1950. During 1948, the cotton-textile mills had in operation substantial recovered capacity: 1,500,000 spindles and 30,000 looms reinstalled during 1946 and 1947. The 1948 machine installation program was set at putting into operation 43% more spindles and 21.5% more looms than in 1947. While no figures have been released on the number of machines installed in 1948, it is noteworthy in this connection that native output of looms showed a 208% increase over 1947 at the end of the third quarter of 1948.

Textile output during 1948 was running slightly ahead of the year's timetable, according to official statistics. For 1948, the following rates of increase over 1947 were set: 21% in cotton cloth, 23% in woolens, 27% in linens, 20% in silks. Synthetic-fiber output was scheduled to rise sufficiently to provide for an additional 10,000,000 meters of rayon fabric during the year. At the end of the 1948 third quarter, it was officially announced that production was up 18% in cotton cloth and 26% in woolens, compared to third quarter levels of 1947. The following rates of increase were set for the fourth quarter of 1948: 15% in cotton cloth, 10% in woolens, and 7% in silks.

Output rose with the help of increased labor productivity and more efficient use of installed machinery. An efficiency movement, developed among spinning-frame operators, is reported to have made possible the operation of an additional 100,000 spindles with the same number of workers. At leading plants, speeder frames are being operated at 625 to 680 rpm. instead of the former speed of 550 rpm., and spinning frames are being stepped up to as much as 7,500 rpm. Operators, who run simultaneously a number of machines in addition to standard quotas, are reported to number 42,000. Meanwhile, the Soviet textile industry's available manpower increased by 120,000 persons during the 18 months preceding midsummer of 1948.

The Soviet textile industry is operated as a self-contained economic unit, independent of foreign import and export both with respect to raw materials and



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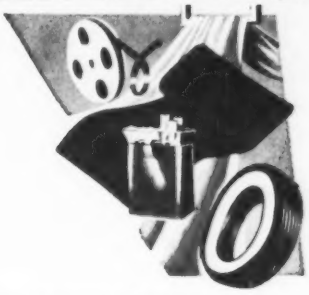

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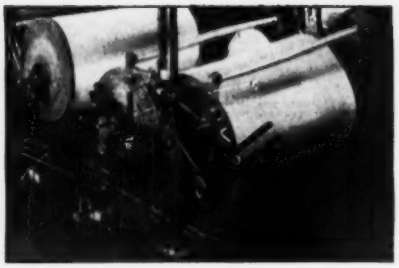

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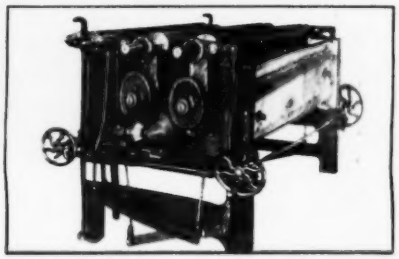

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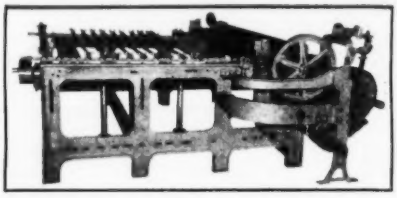

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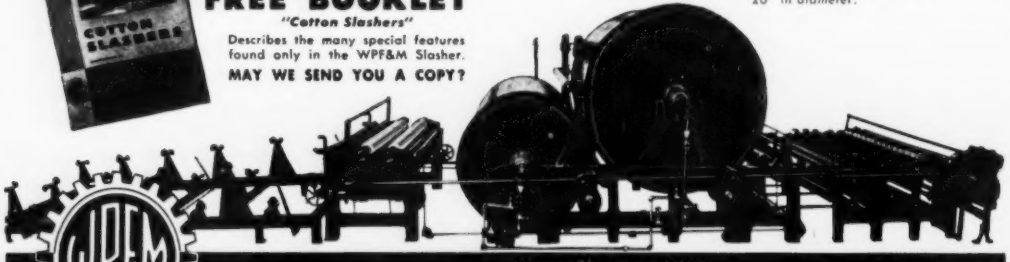

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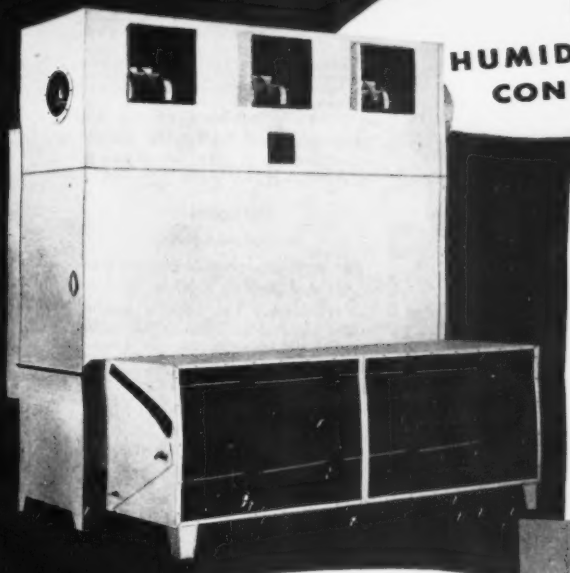

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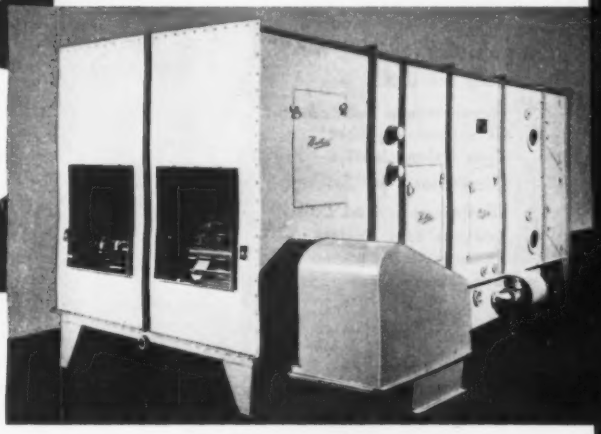

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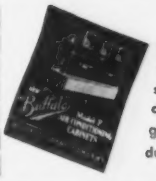

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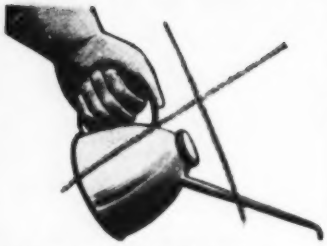

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products as well as to machinery. Cotton, wool, and silk cloth are produced for the home market at native mills operating on home-produced raw cotton, wool, silk, and synthetics. [Late in 1948, Russia was buying wool in Australia and cotton in the U.S.—*Editor*] The cotton crop in Central Asia, the main source of native supply, was reported in 1948 to be adequate for the needs of the country's textile mills. Central Asia is also the main source of raw silk, and Uzbekistan in 1948 delivered to the state silk mills almost a million pounds (27,340 poods) more cocoons than in 1947.

The Soviet textile-machinery works, output of which made it possible to strike textile machines from the Soviet import list in 1947, maintained production rates during 1948 adequate to domestic need and put much newly designed equipment into production. The new equipment includes both weaving and spinning machines of original Russian design, rated as highly productive. Special mention is made of a new loom for plush, velvet, and artificial fur designed by two foremen, Y. V. Lukyanov and N. I. Filimonov, at a Moscow textile-machinery works. The machine is described as differing from similar foreign models by having an individual motor drive and a number of devices that boost output and ease the labor of weavers. Several machines of this type went into operation in 1948.

New spinning machinery has been developed by engineers at the Karl Marx textile-machinery works in Leningrad, including the first large-dimension roller-bearing spindles produced in this country. These new spindles operate at 8,000 rpm., whereas the "slide" spindles now in use do about 5,000 rpm. The Leningrad works have also developed a new machine for making wool yarn. It is said to be much more productive than wool-spinning equipment now in use there.

SPAIN

By A. V. Sirvent

After doing a land-boom business during the first six months of 1948, because of export demands, production in the Spanish textile industry skidded downward in the last half of the year. The sharp production drop, in the main, was attributed to power shortages rather than a lessening of the overseas demand for Spanish-produced material. At the turn of the year, textile plants were operating only three days a week.

Accurate comparison between 1947 and 1948 operations are not possible, for government-kept figures are inadequate, and the industry itself maintains no continuing production studies. Characteristic of the Spanish textile industry are so-called "compensation accounts" under which it is difficult to tabulate business volume. Under this system, a foreign producer will send to a Spanish manufacturer a quantity of raw cotton for processing. Of the weight of finished cloth, 70% will be returned to the customer and the other 30% will remain in Spain for domestic consumption. In the transfer procedure, the government itself keeps a foreign-currency percentage of the deal.

Highlight of the 1948 Spanish textile business was the setting in operation of two nylon hosiery plants in Tarrassa City and Mataro City, respectively. The nylon yarn is purchased abroad. The hosiery is of good quality; and, because of the cheapness of labor, is marketed at low prices.

SWEDEN

By G. Howard Smith

The inevitable results of bilateral trading are beginning to show in Sweden's textile business. The value of finished textiles imported in 1948 was $90,000,000 less than the previous year. In a sense, however, this represents a healthy adjustment: The ratio of raw-material-plus-yarn imports to finished-textile imports is now close to the prewar average.

All raw materials have to be imported. In 1947, only about 35% of the import total consisted of raw materials and yarns; but by the second quarter of 1948, the figure had risen to 53%. Taking all textile imports together, Sweden spent about $65,000,000 less in 1948 than in 1947. The 1947 total was $280,000,000. The percentage of textiles to total imports is dropping—20% in 1947, 17% first half of 1948.

The switch from hard to soft currency sources has been marked. Imports from the United States fell from $73,000,000 in 1947 to under $6,000,000 for the first half of 1948. Raw-cotton purchases were switched to Egypt and India. Britain, France, and Belgium supplied nearly three-quarters of Sweden's yarn imports in the first half of 1948—Britain's quota for the half year exceeding its 1947 total.

A new wool-scouring method has been developed by a Swedish engineer, Joel Lindberg of the Chalmers Textile Research Institute in Gothenburg. It reportedly increases the strength of wool by 20 to 25% and yields satisfactory quantities of by-products. It is regarded as the most important discovery made by the institute.

Asia

CHINA

By John W. Powell

China's cotton-textile industry, which a year ago faced a bright future, now finds itself looking ahead gloomily as a result of the military and economic disasters suffered by the Chinese government.

The industry centers in eastern China, mainly in the Shanghai and Wusih districts of Kiangsu province which contains 175 textile mills operating a total of 3,282,538 spindles and 40,264 looms. These figures represent 67% of the nation's mills, 65% of the spindles, and 57% of the looms. Aside from this area in Kiangsu, the provinces of Hopei, Shantung, Szechuan, and the Manchurian provinces contain the remainder of the industry. It should be noted that, because of the civil war during this year, any and all estimates are subject to revision.

During 1948, a rapidly deteriorating economy plus a shortage of raw cotton prevented any anticipated headway. By June, a total of 732,690 piculs of cotton yarn had been produced, showing no significant increase over 1947. By the end of the year, mills were expected to average 121,978 piculs of cotton yarn and 1,457,513 bolts of cotton cloth monthly.

According to official sources, the industry here needs 2,112,000 bales of raw

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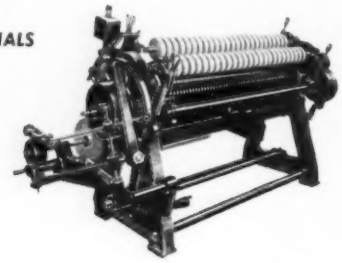
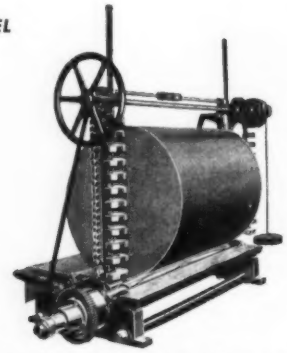


CAMACHINE 26-3A is especially designed for handling tacky or unevenly coated materials, such as adhesive tapes. Machine widths 26" to 56". Accommodates a 32" diameter mill roll. Rewinds rolls as narrow as ½", or up to 17¼" in diameter. Operates at speeds up to 400 fpm.

BIAS BINDING

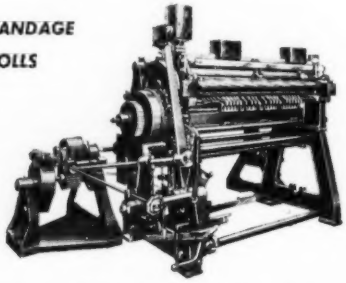
CAMACHINE 40-3L is the ideal machine for converting straight and bias binding fabrics (also specialty fabric) into strip in rolls. Machine widths 26" to 56". Accommodates material from roll, piece or fold. Rewinds rolls as narrow as ½", or up to 22" diameter. Speed up to 150 fpm from fold; higher from roll.

LOW MODEL WINDER



CAMACHINE 44-W low model winder operates in conjunction with processing machines as in bleacheries, fabric printing plants and bag factories. Available in machine widths from 32" to 82". Produces firm, uniformly rewound rolls up to 36" in diameter at speeds up to 1000 fpm.

BANDAGE ROLLS



CAMACHINE 40-4B, a semi-automatic machine for fast production of gauze bandage rolls. Machine widths 42" to 50". Accommodates 24" diameter mill roll. Rewinds rolls as narrow as ½", or up to 12" diameter. Machines come equipped with automatic stop for producing rolls of predetermined length.

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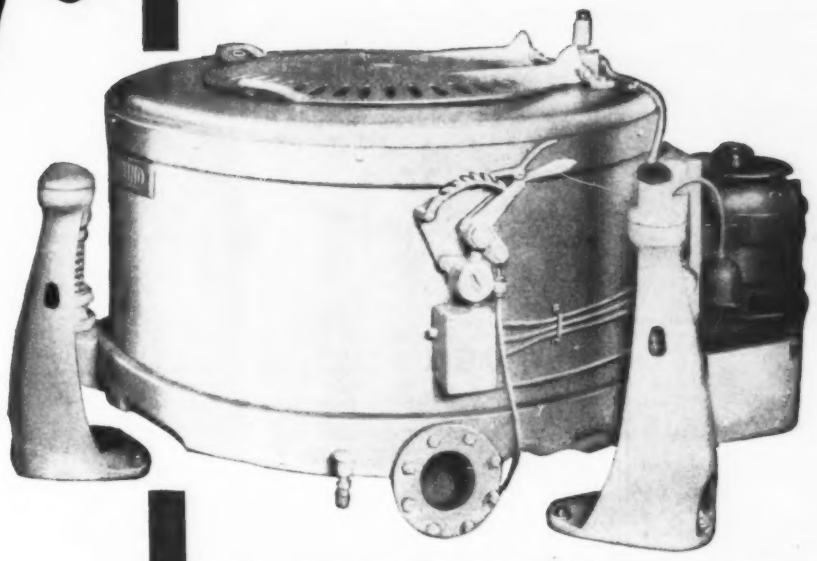

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cotton yearly. It was expected that 600,000 bales of domestic cotton can be collected. Thus, with a current stock of about 300,000 bales, there will be a shortage of 1,212,000 bales for 1949. With the war tending to surge south of the Yangtze, the future of the industry is highly uncertain; and many plants have cut down production, closed down entirely, or endeavored to move to south China, Hongkong, or Taiwan.

The current equipment of cotton mills in China has been estimated to be around 5,000,000 spindles with a monthly consumption equivalent to 155,000 500-lb. bales of cotton. At the beginning of 1948, the government promulgated several measures with a view toward stabilizing cotton prices for the year. The main measures were: (1) Mills possessing over 3,000 spindles were to be allowed to spin for others; however, these mills were first to work with their own stocks of cotton and then exchange the cotton yarn for more raw cotton. (2) The export of cotton yarn was to be conducted by the Textile Control Committee and the quantity was not to exceed 20% of total production.

JAPAN

By A. W. Jessup

Japanese textile output for 1948 was slightly higher than for 1947, but did not show any great recovery. Conclusion of bilateral trade agreements with members of the sterling area, however, promises to give added incentive to the industry in 1949.

Primary stumbling block to recovery, particularly of cotton textiles, has been the lack of markets. Buying-will in traditional sales regions was present, but customers were unwilling to pay dollars. Agreements on close to a barter basis with India, the United Kingdom, Australia, New Zealand, Netherland's East Indies, Siam, and Burma partially overcome this problem.

There was a goal of 4,000,000 spindles for Japan's cotton industry in early 1949. This has been sharply, but quietly, revised. Present expectations are that operable spindleage will reach 3,800,000 by March, 1950. Present operable spindles total 3,346,000 but there are 3,855,000 spindles available. The 1948 production could have been turned out on 2,000,000 spindles.

Japan's textile machinery industry has practically halted work on equipment for domestic installation and will produce mainly for export from now on. Japan needs the trade income from machinery exports much more than it needs more installed equipment.

INDIA

By J. K. Van Denburg

Biggest news of the year in the Indian textile industry has been the recovery of the cotton section which provides the country with its biggest industry. There is every indication that 1948 output will touch 4,500,000,000 yd. This is below the wartime peak of 4,800,000,000 yd. in 1944, but it is 25% over last year's disappointing 3,850,000,000 yd. and stands as the biggest peacetime output of cotton cloth in India's history.

Part of the gain is due to a few new mills, aided by import of an estimated 400,000 new and 10,000 reconditioned spindles. Most of the credit, however, goes to more than half a year of unrestricted prices. Retail prices skyrocketed as much as 200% before controls were reinstituted and prices partially reduced. The wholesale index (1939=100) stands at 414 at the beginning of the year, almost 100 points above a year ago.

Little progress is apparent in large-scale expansion of cotton-textile mills. The much-talked-of 125 new mills are almost all still to be delivered, so the programmed 7,200,000,000-yd. production goal is a long way off.

Meanwhile, three rayon plants mapped more than a year ago are in various stages of construction. The first, in the south Indian state of Travancore, may go into production late in 1949. Until it does, the Indian rayon industry, held to less than half of its yarn requirements (which were largely war-created), remains hobbled. And the woolen industry remains very small.

Africa

EGYPT

By Branko Adjemovitch

The textile industry in Egypt has grown with the increasing demand for local production resulting from hard-currency shortage. The abundant cotton crop in Egypt, the cheap manual labor, the availability of capital, all have contributed in boosting the cotton-mill capacity which now largely satisfies the local market.

During 1947-1948, (1) four medium-size cotton mills began spinning and weaving on a small scale in Maadi, Cairo, and Alexandria; (2) two major spinning and weaving plants in Alexandria and Kafr-el-Dawar were enlarged; (3) an important cotton mill at Mehalah-el-Kobrah was partially renovated while complete renovation was effected on one major cotton mill at Mehalah-el-Kobrah and one woolen mill in Alexandria; (4) one new medium-size flax plant was built in Soubrah-el-Khemah and another remodeled in Alexandria; (5) a woolen mill was reconditioned in Alexandria and (6) a large new rayon plant at Kafr-el-Dawar, representing an investment of $15,000,000, began producing at yearly rate of 5,000,000 lb. of viscose filament rayon, 5,000,000 lb. of viscose staple, and 1,000,000 lb. of cellophane.

SOUTH AFRICA

By J. M. Lawless

Increasing capital investment from overseas seems to indicate that South Africa has excellent prospects of developing a sound industry for the spinning and weaving of wool, cotton, and jute. The fact that the country is being regarded more and more by many world buyers as the home of fine wools is a contributory factor. Principal outside investment comes from British, Belgian, and French interests. The biggest single investments

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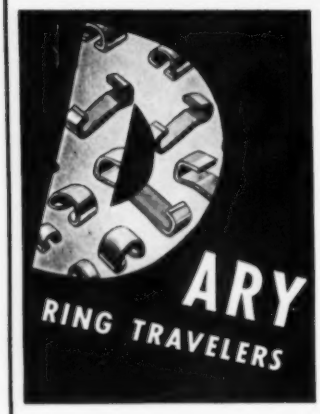

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have been in cotton. At Kingwilliamstown, near East London, an $8,000,000 project, the Good Hope Textile Factory, is being organized by Calico Printers Association, Ltd., of Britain, and the Industrial Development Corp., a government-sponsored finance corporation. At Ladysmith, Natal, another $8,000,000 venture is operated by Consolidated Lancashire Cotton Corp.

Other British investors include Sanderson, Murray & Elder, Ltd., of London, which is setting up a wool scouring, carding, and combing plant at Port Elizabeth. The South African subsidiary company, with $8,000,000, is a tie-up between the Sandersons, the Bowling Mills Combing Co., of Bradford, and John Vicary & Sons, Ltd., of Newton Abbott.

French interests are behind the Hex River Textile Mills, a $3,200,000 project at Worcester, Cape Province, which will process South African wool through all stages from washing to finished cloth. Pollet et Cie., the chief interest, bought the entire carding and combing plant of H. D. Shaw & Co., Ltd., at Bradford, for removal to South Africa.

Constant Despa, Ltd., a Belgian concern, is to operate a $400,000 plant at Port Elizabeth to wash and carbonize wool.

In Bulawayo, Southern Rhodesia, F. Lessels & Sons, Ltd., is making looms to help meet the shortage. They are specially designed for African conditions and are not automatic. At Springs, near Johannesburg, Protea Textile Mills has made its own looms.

Oceania

AUSTRALIA

By Herbert Leopold

Undeterred by the threat of a rapid revival of Japanese textile competition, Australian capacity in synthetic-fiber fabrics and cotton textiles in 1948 continued to expand vigorously. Woolen and worsted capacity expanded to a much smaller extent. A major event was the establishment of a Melbourne subsidiary by Riverside Worsted, a French-American mill. Burlington Mills and Bruck Silk Mills, also subsidiaries of North American concerns, installed additional equipment for weaving and dyeing of synthetics. Production is to be quadrupled by 1952. The Tariff Board is likely to recommend the imposition of high protective duties on both woven and knitted silk and rayon materials.

Compared with 1939, twice the number of cotton cards, combs, and spindles are now in operation; and installations of looms, twisters, and warpers have nearly trebled prewar capacity. Production of bleached sheeting and pillow cloth was started in 1948.

Introduction of the 40-hr. week on Jan. 1, 1948, resulted in lower production per operative per day. This was only partly offset by an increase in the number of employes, by overtime work, and by installation of additional equipment. The cotton industry worked at only 60% of capacity, mainly due to labor shortages.

Rationing of clothing was abandoned in 1948 although many lines were, and continue to be, in short supply. The subsidy on domestic wool production was also abolished.

Courtaulds, Ltd., of England, is reported to have decided to go ahead with its proposed Australian rayon plant for both viscose and acetate fibers. Plant for the latter is to be laid down first.

NEW ZEALAND

By Herbert Leopold

The dominion's textile industry made a big stride forward in 1948 with the establishment of Korma Textiles, Ltd., a $2,000,000 project for worsted spinning and weaving plus silk and nylon hosiery. Korma is a subsidiary of Felt & Textiles Ltd., a concern that operates in Australia and other dominions. This venture will ultimately increase textile employment in New Zealand by nearly one-third. Cotton spinning and weaving capacity, however, remains negligible.

Domestic woolen mills are handicapped by shortages of labor and new equipment. Production and imports of worsted suitings fall far short of requirements, but the supply of worsted yarn, partly imported from Australia, is nearly equal to weaving capacity. Clothes rationing was abandoned at the end of 1947. Employment in hosiery and knitting mills has increased from 1,259 in 1939 to nearly twice this figure. The 19 woolen mills in the dominion employ nearly 4,000.

Textile Equipment News

(Continued from page 170)

final measurement of the fabric shrinkage in each direction.

Regardless of the percentage of shrinkage as determined by the first measurements, if the material is elastic enough to be drawn back to shape without exceeding certain established standards, the shrinkage tests are considered passable. These standards as established after extensive research are to allow a maximum of 3 lb. tension in the directions of both wales and courses. Fabrics that do not exceed these tensions are considered elastic enough to reshape and give proper fit after laundering.

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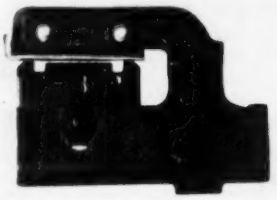
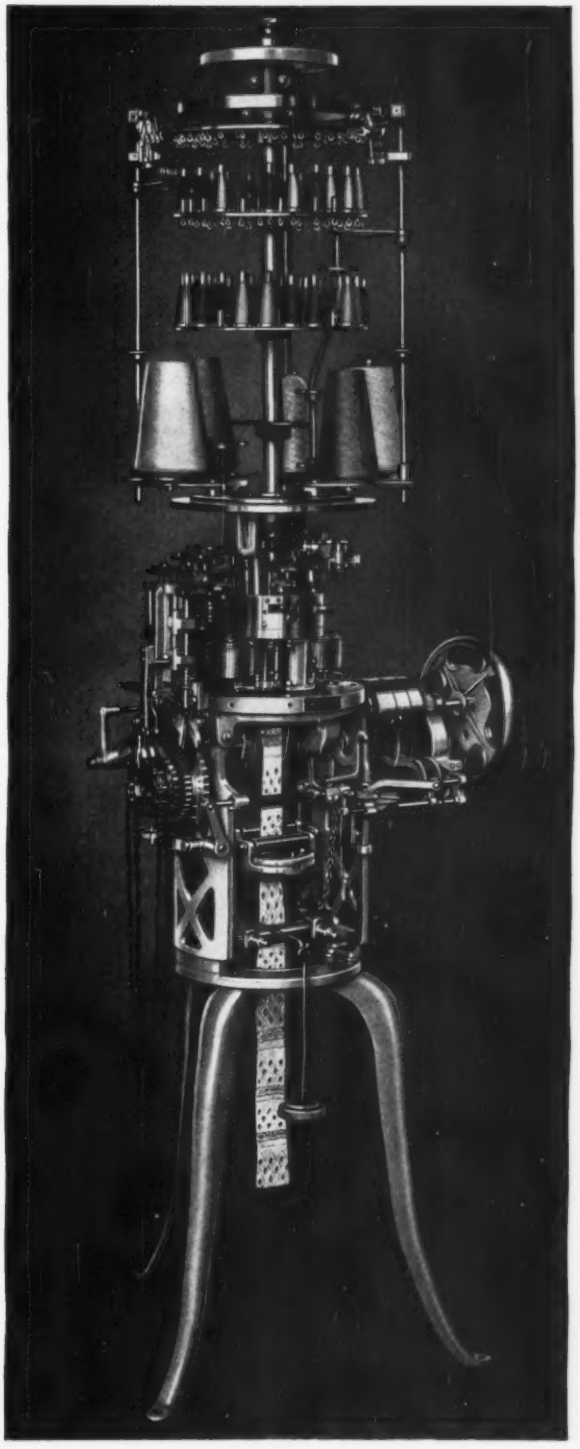
Slub Catcher Designed For American-System Yarn

A new Auto-Nip slub catcher, designed primarily to inspect worsted and spun-rayon yarns spun on the American system of spinning, has been developed by Universal Winding Co., Providence, R. I.

The Auto-Nip slub catcher is said



SOFT SLUBS are effectively removed from worsted and spun-rayon yarns by this new slub catcher.



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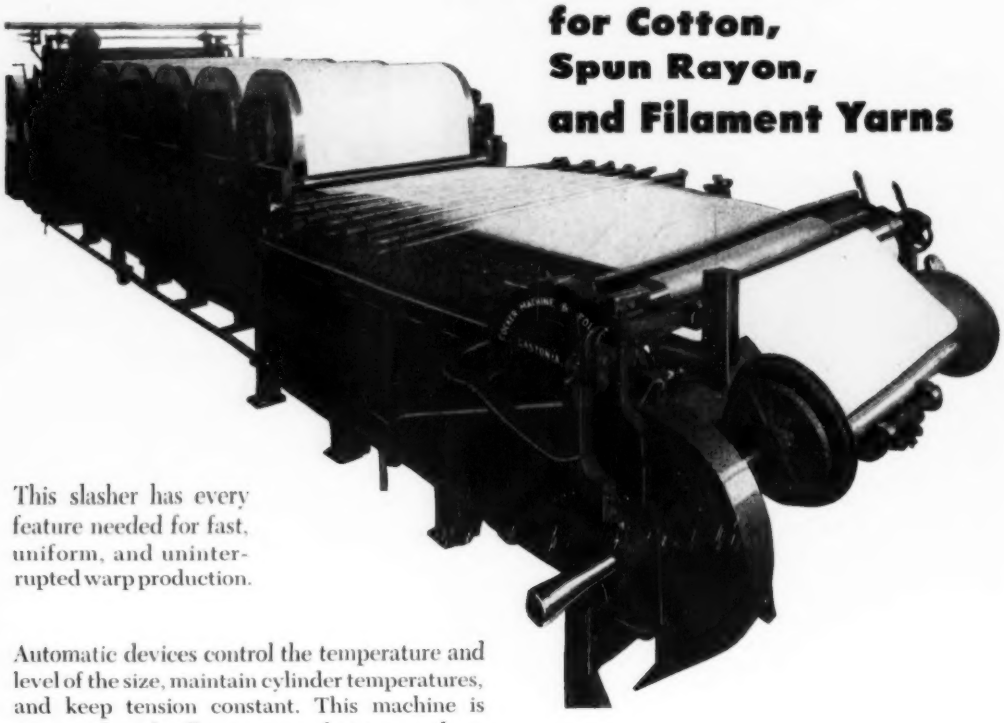

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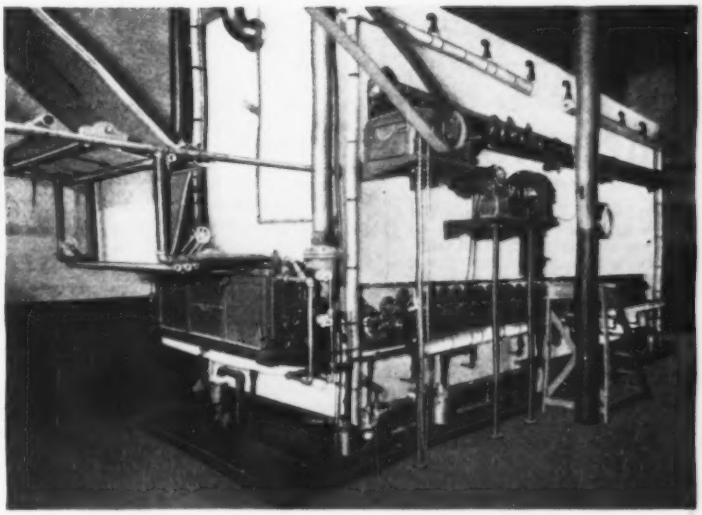

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to be very effective in catching soft slubs, especially of the torpedo type. Skinbacks are minimized as the Auto-Nip slub catcher permits a much larger opening than possible when trying to catch these soft slubs with a fixed-blade type of slubber.

The Auto-Nip slub catcher consists essentially of a bracket by which the device is mounted, a small pivoted leaf (the bottom of which has very finely tooled serrated teeth), a small coil spring which tensions the leaf, and an anvil which is placed opposite the swing-lever mount.

The action of the Auto-Nip slub catcher is as follows: yarn is run underneath the leaf; and whenever a soft slub is detected by the serrated edges of the pivoted leaf, the leaf pivots downward against the anvil, and the end is broken.

The opening of the Auto-Nip slub catcher to meet the inspection requirements of various counts can be accurately and easily controlled by means of a feeler gage.

The Auto-Nip slub catcher can be readily installed on any standard No. 44 tension bracket. It can be used individually or in conjunction with a fixed-blade slub-catcher device.

Delivery is immediate.

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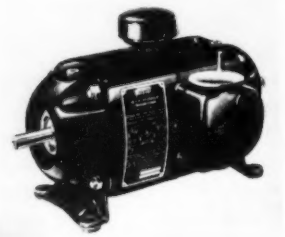

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Features of the new Vickers transmission include smooth and stepless speed adjustment from zero to maximum output revolutions per minute in either direction of rotation. Full and constant-torque power characteristics are maintained throughout the entire speed range. The input shaft may be driven in either direction without mechanical change. Also, the unit may be stalled without damage, as it is equipped with automatic overload protection.

The Vickers TR2-R13F13 variable speed hydraulic transmission is rated at ½ hp. continuous duty. Effortless finger-tip speed adjustment over the complete range is obtained by either handwheel or servo control.

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***LONG LIFE** is claimed as a feature of these lightweight steel cloth rolls.*

A new cloth roll, designated the Lifetime roll and designed to last the life of a loom, has been developed by A & W Machine Co., P. O. Box 111, Charlton City, Mass.

The roll is a piece of lightweight steel tubing 2½ in. in diameter, with 20-gage wall. End pieces with the square hole are steel, ⅜ in. thick; the hole is 1⅜ in. square. Steel washer inside the roll facilitates unwinding the cloth at the perch should a bar be used to hold the roll. Three bars are welded on the roll or sand-roll covering for starting the cloth. Approximate weight is 17 oz. to every 10 in.

All parts of the roll are welded together and are guaranteed by the company not to part. Cloth rolls can be made in any length, with or without shafts at each end, or to any mill specifications.

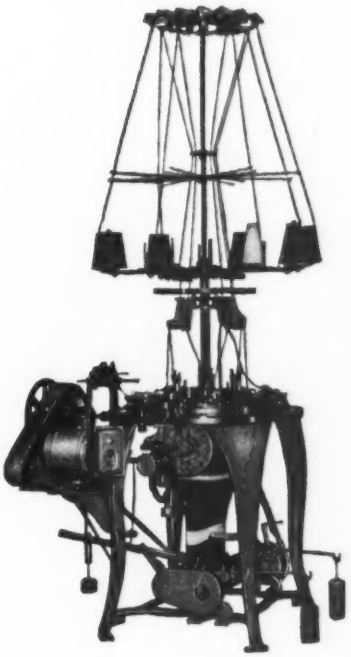
Unit Humidifies Medium-Sized Areas

A new Walton Junior humidifier is now in production after a series of intensive field tests, according to The Abbeon Supply Company, 58-10 41st Drive, Woodside, New York, N. Y., distributors. The new humidifier is designed to fulfill the need for a humidifier for medium-sized areas of from 2,500 to 7,500 cu. ft.

The Walton Junior humidifiers require no steam, no pumps, no com-

CIRCULAR LATCH NEEDLE KNITTING MACHINES

Leighton Machines in various models are especially adapted for the Sportswear Trade



Transfer Machines
2½ to 10 Cut

Double
Needle Rib

Interlock
Rib

Jacquard
Machines

Machines
Built in
Large and
Small Sizes

Girdle
Machines

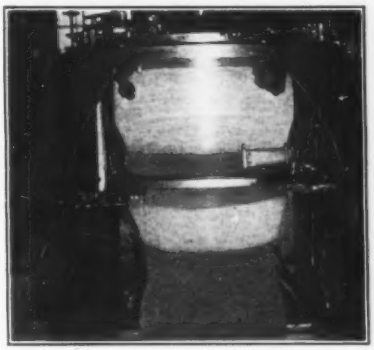
Three Needle
Selective
Rack

Seamless
Cap and
Sleeve
2x2 Cuff

Fine or
Coarse
Gauges

Brushing Attachment (right). There are definite advantages to horizontal or sidewise brushing on Leighton machines. The face of the fabric is on the outside facing the operator. Brushing improves the handle or feel and smooths out the surface to give uniformity in appearance.

Leighton Machines are used extensively for the various Army and Navy garments.

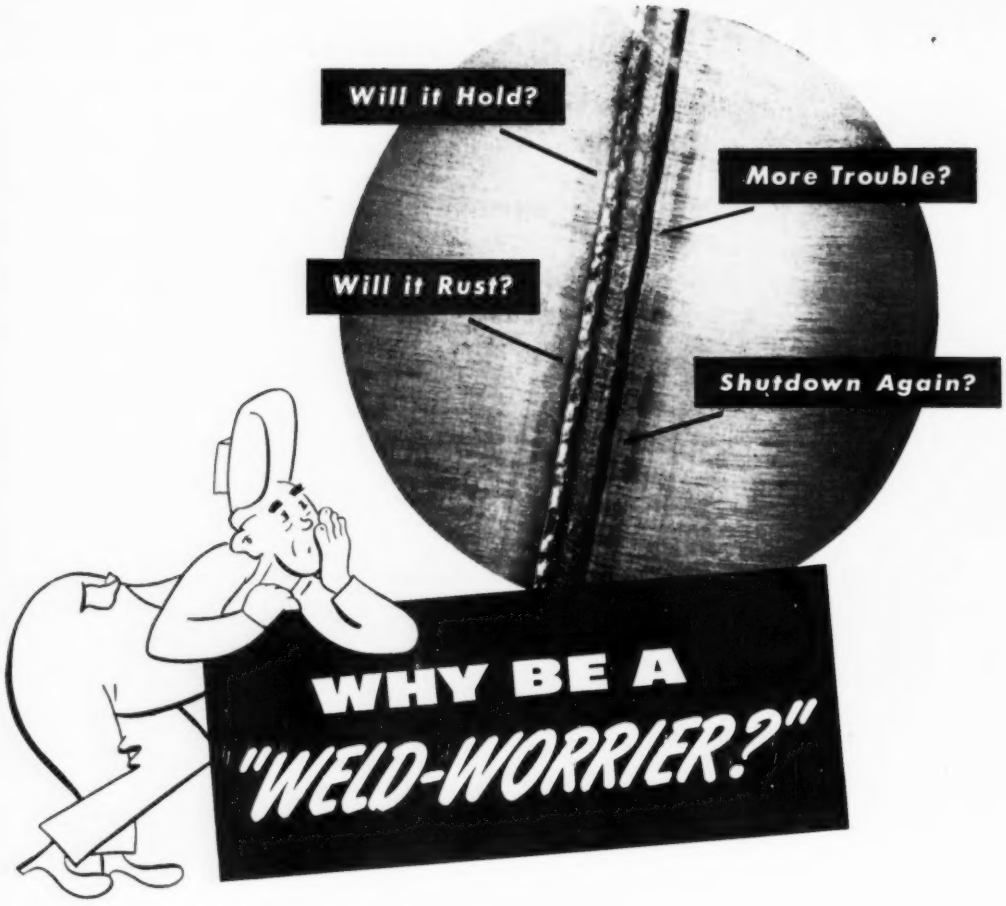


Write for further information and send sample of fabric if possible.

LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

LEIGHTON

MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894



You can put an end to your worries about preferential corrosion at the welds—and save money too—by using ARMCO "ELC" Stainless Steels for your wet processing equipment.

These new ARMCO Stainless Steels (Types 304 ELC and 316 ELC) are as corrosion resistant near the welds as elsewhere. They prolong service life and slash maintenance costs.

Best of all, ARMCO "ELC" grades cost less than stabilized stainless steels commonly used for welded equipment. No annealing is needed after welding ELC grades. This saves money, especially in large assemblies fabricated from heavy-gage sheets or plates.

.03% CARBON MAXIMUM

The reason is the Extra-Low Carbon (.03% maximum) in ARMCO ELC grades. This eliminates intergranular corrosion by preventing harmful carbide precipitation during welding. Areas near the welds staunchly resist corrosive attack when your processing equipment is in service.

ARMCO ELC is ideal for corrosive conditions at service temperatures below 800° F. It can be used to advantage in agers, bleaching machines, and fulling machines; for carbonizing equipment, dye kettles and piece carbonizers (acid tank) in wool processing equipment.

Get complete information about ARMCO "ELC" Stainless Steels. Find out how you can take advantage of the special corrosion-resistant properties of this metal. Just write to the address listed below or ask your equipment fabricator to inquire. Armco Steel Corp., 92 Curtis St., Middletown, O.

Export: The Armco International Corporation

ARMCO

ARMCO STAINLESS STEELS

NEW! FOXBORO'S "LIFE-TIME" DIAL THERMOMETER

with ⅛" self-protected tubing

and bulb of #316 stainless steel

ALSO: VAPOR-TIGHT NON-FOGGING CASE

HERE, FOR THE FIRST TIME, is a dial thermometer that's entirely protected against corrosion from liquids, fumes, and vapors. Replacements and service are virtually eliminated.

Bulb and capillary are one continuous welded assembly of type 316 Stainless Steel — the best known protection against corrosion. And the flexible ⅛" capillary is so strong and rugged that it does not need protective tubing.

The case is made of corrosion-free aluminum alloy . . . and vapor-tight.

Money in your pocket . . . that's what you can expect when these thermometers are installed on dye kettles, dryers . . . wherever corrosive fluids or vapors are a problem. They offer this extra durability plus Foxboro sustained accuracy at no extra cost. Write for details.

The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U.S.A.

FOXBORO
REG. U. S. PAT. OFF.

RECORDING · CONTROLLING · INDICATING
INSTRUMENTS

U. S. RING TRAVELERS

Longer Traveler Life on

WET TWISTING

U. S. "SPECIAL BRONZE"

U. S. "Special Bronze" Twisters are something truly different and better for wet twisting. This alloy is toughter, more resistant to the peculiar conditions of wet friction—and often GIVE 20 to 35% GREATER LIFE than the ordinary bronze travelers of just a few years ago. Use these MODERN travelers for MAXIMUM service.

A Style and Size for Every Textile Fibre

WORKING SAMPLES GLADLY SENT

U. S. RING TRAVELER CO.

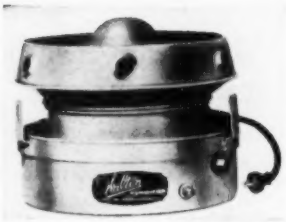
AMOS M. BOWEN, President & Treasurer

FACTORY: PROVIDENCE, R. I.

WAREHOUSE: GREENVILLE, S. C.

Write, wire or phone nearest office.

W. P. Vaughan, W. H. Rose, Greenville, S. C. Box 1048—Phone 3031
O. B. Land, Athens, Pa. Box 1187—Phone 478
L. H. Mellor, Jr., Mid-Atlantic States 123 Treaty Rd., Drexel Hill, Pa. Phone Hilltop 2946
H. R. Fisher, Concord, N. C. Box 83-Phone 8366
C. W. Smith, H. J. Smith, Providence, Box 1187 Gaspee 0100



VAPORIZING CAPACITY of this humidifier for medium-sized areas is ½ gal. per hr.

pressors, and no return lines. They are completely noiseless in operation. The vapor is emitted looking like a fog, said to be finer than cigarette smoke.

The machine works in the following manner. Water is brought into the bottom pan of the unit, and the water level is controlled by float valve. A copper tube rotating in the water forces a thin stream to ascend onto a disk revolving at 3,450 rpm. This fine sheet of water is hurled onto a circular copper comb and instantly pulverized. Mounted on the bottom of this copper disk are small blades which create a turbulence in the air inside the unit. This air escapes through the portholes in the dome, carrying with it the finest of the water vapor from inside the unit. The coarser vapor falls back down to the bottom of the pan and is reused.

A few of the physical details of the Junior industrial humidifiers are as follows:

Vaporizing capacity, slightly over ½ gal. per hr.

Water supply—a copper tube can be run in from any water line.

An automatic control can be supplied that will automatically turn the unit off and on at any desired relative humidity.

Unit can be hung from the ceiling or placed on a table or shelf.

The motor is 1/40 hp., drawing 75 w.

Everything in the unit is made of heavy-gage copper or other non-ferrous materials.

New Dyes, and Chemicals

(*Continued from page 172*)

isfactorily be used in water of any hardness and in the presence of salts, soaps, emulsions, and the like.

From an economy viewpoint, Hartofol C is claimed to be one of the fastest wetting agents on the market. In addition to its wetting action, it shows good detergency (particularly in the presence of alkalies and phosphates) and good sudsing action.

Hartofol C is recommended by the manufacturer for use wherever superior wetting-out, rewetting, and scouring action are required. It is also recommended for vat or pad dyeing, for package dyeing, and dyeing operations in general to give greater uniformity of shade. Added to printing pastes, it can improve penetration and gives better fastness to soaping. Hartofol C finds application in raw-wool scouring; wool carbonizing; wool piece-goods dyeing; rayon, acetate, and cotton boil-off; rayon and acetate dyeing as a wetting-out agent; and print washing and dyeing.

Finish Needs No Curing

A textile finish which requires no curing, yet which is said to last through a number of launderings or dry cleanings is being manufactured by American Polymer Corp., Peabody, Mass., under the name Polyco 337.

Currently sold only to manufacturers of textile finishes, Polyco 337 comes as a water-thin material containing 35% resin solids. It is said to require no high-temperature curing because the evaporation of the water content fully sets the polymerized resin. No solvents are used in its manufacture. It absorbs no chloride on bleaching. Its non-inflammable, and nontoxic qualities recommend it for use under about any conditions.

Polyco 337 is compatible with starches, dextrines, gums, and other conventional textile-sizing agents; and its application is said to require no special operations or special machines. Polyco 337 also provides extra resistance to soiling, abrasion, and wear; increased fabric strength; and no discoloration on exposure to light or embrittlement on ageing. Users of Polyco 337 are reported to experience no difficulties in calendering and can-drying operations, and the ultimate consumer is assured of additional ease and smoothness in ironing fabrics so treated.

Wash Fastness of Direct Dyestuffs Improved

A new group of Cuprofix colors and Cuprofix aftertreatment introduced by Sandoz Chemical Works, 61 Van Dam St., New York 13, N. Y., is reported to improve the fastness of cellulosic fibers to home laundering, hot wet pressing, and perspiration.

Mill tests on package dyeing of yarn intended for a wide variety of purposes, ranging from cotton hose and sport shirts to rayon suitings, are said

AVAILABLE NOW!

The W & G "Feldlock" with Automatic Lubrication

...the only felling machine that offers you all these features for faster, lower-cost production

The W & G "Feldlock" is a precision-made, high-speed, lap-seam felling machine, designed to permit maximum production with minimum effort. Here are just a few of the outstanding features:

Automatic, Force-Feed Lubrication—circulates a constant supply of filtered oil to all bearings. Relieves operator of all oiling duties—assures perfect lubrication and longer bearing life.

Feed-Off-The-Arm Design—permits operator to work in a more comfortable position, for greater efficiency and increased production. Also permits operator to prepare both edges of material without obstruction, and makes it unnecessary to withdraw finished garment over the arm.

Easy Accessibility for Cleaning and Adjustment. Removable covers, which give easy access to interior parts, are secured without gaskets or sealing compounds. Removable end cap on work arm permits complete and instant removal of lint and filler.

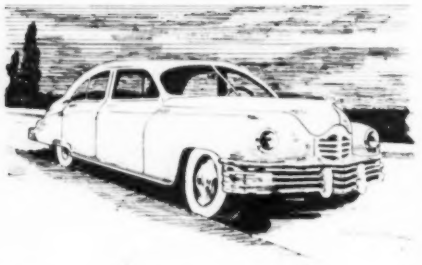
Easy Threading of Needles and Loopers. Looper holder swings outside of arm for faster, easier threading. Needles are self-centering—always in correct relative position to loopers.

Duplex Foot Unit—facilitates passage of foot over bulky cross seams. Permits felling wide variety of materials and types of garments.

This, of course, is only *part* of the story. For complete information, write for your copy of Bulletin No. 806. And remember that the W & G "Feldlock" is available now for *immediate delivery*.

WILLCOX & GIBBS
Sewing Machine Co.

214 West 39th St., New York, N.Y.



1. Is this an au-to-mo-bile?
Yes, this is an au-to-mo-bile.
It is a fine au-to-mo-bile and

POWELL VALVES

helped to make every part of it.

American Industry has gone a long way since McGuffey compiled his First Reader in 1836. But Powell Valves have matched every step in its progress.

Literally, Powell Valves help to make everything that goes into the modern automobile. Because, whether it be motor, transmission, chassis, body, plastics, finishes, tires, anti-freeze, battery, gasoline or any other processed item, there are Powell Valves exactly suited to control the flow of all media used in their production.

This automobile merely illustrates the completeness of the Powell Line. The important point is that, no matter what *your* product may be, there are Powell Valves especially adapted for each and every one of your flow control services.

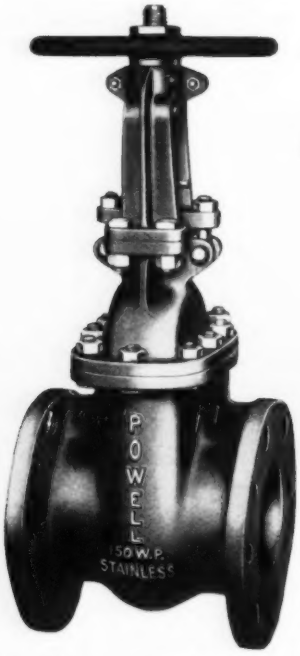


Fig. 2453-G—Large 150-pound Stainless Steel Gate Valve. Made in sizes 5" to 30", inclusive. Has bolted flanged yoke-bonnet, outside screw rising stem and tapered solid wedge.

Fig. 375—200-pound Bronze Gate Valve. Screwed ends, union bonnet, inside screw rising stem and renewable "Powellium" wear-resisting nickel-bronze disc.

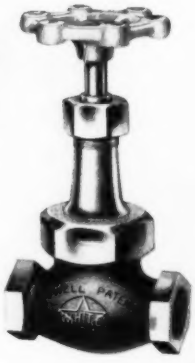


Fig. 1708 — 200-pound Bronze Globe Valve with screwed ends, union bonnet, renewable, specially heat treated stainless steel seat and regrindable, renewable wear-resisting "Powellium" nickel-bronze disc.

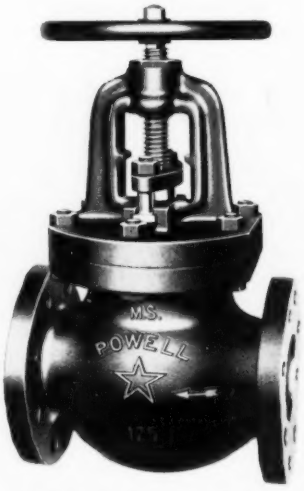


Fig. 241—Large 125-pound Iron Body Bronze Mounted Globe Valve. Made in sizes 2" to 16", inclusive. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc.

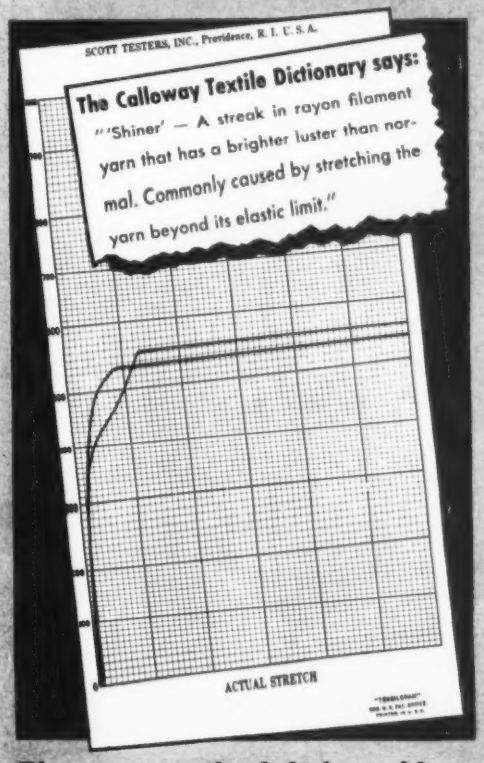
The Wm. Powell Company
Cincinnati 22, Ohio
DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

POWELL VALVES

How to forestall "Shiners" in your finished cloth

The picturized chart illustrated, shows how readily the Scott IP-2 Incline-plane Tester reveals yarn that would produce a shiner in finished goods.

By testing your rayon on a Scott IP Tensile Tester before weaving, you can positively detect shiners.


SCOTT TESTERS, INC., Providence, R. I. U. S. A.
The Calloway Textile Dictionary says:
"'Shiner' — A streak in rayon filament yarn that has a brighter luster than normal. Commonly caused by stretching the yarn beyond its elastic limit."
ACTUAL STRETCH

The yarn on the left is a shiner

The above actual machine record produced on a Scott IP-2 Tester clearly picturizes the difference between normal yarn (right) and yarn which would "finish" as a shiner (left).

The first of a series — Watch for others

TESTED IS TRUSTED

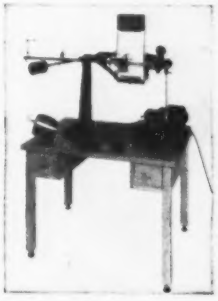
The new *Scott Tester series of "How to" ads

These ads will deal with specific problems of textile manufacture and the testing methods that are being used to help solve them. Actually, your problems are the backbone of our business. They "create" our apparatus. Scott personnel work closely with individual mills and groups such as TRI and ASTM, for mutual benefit "from Problem to Progress." We welcome the opportunity to talk with you any time you run into a situation where testing know-how might help.

IP-2

Exclusive Incline-plane Tester

Tests from single fibre to 2,000 grams for tensile and hysteresis



Request Catalog 48

describing our exclusive Incline-plane Testers as well as other machines with capacities up to 2,000 lbs. for testing single fibre, yarn in single end or skein, thread, twine, cords, cloth, duck, webbing, etc.

Machines for: TENSILE • HYSTERESIS • BURST • TWIST • CREPEAGE • FLEXING

SCOTT TESTERS

*Registered Trademark

SCOTT TESTERS, INC. 95 BLACKSTONE STREET, PROVIDENCE, R. I.

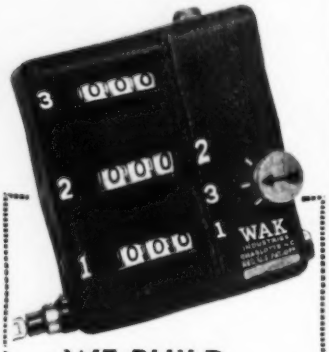
Scott Testers — Standard of the World

You Can Count on

WAK*

COUNTERS

- RUGGED
- ACCURATE
- DEPENDABLE

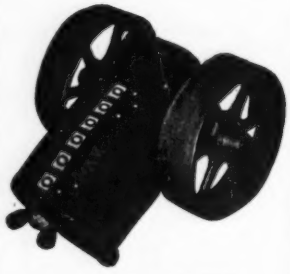


WE BUILD...

RESET AND NON-RESET

★ Single Pick Counters
★ Double Pick Counters
★ Triple Pick Counters
★ Rachet Counters
★ Rotary Counters
★ Slasher Counters
★ Tenter Counters
★ Twister Counters
★ Inspection Table Counters
★ Sewing Machine Counters
★ Yardage Counters
★ Folding Machine Counters
★ Hank Clocks
★ Special Counters

"Over 500 mills in the United States, Canada and foreign countries use WAK counters."



*T. M. REG. U. S. PAT. OFFICE

WAK
INDUSTRIES
CHARLOTTE, N. C.

to show a wash-fastness rating of 4 to 5 when certain direct dyes are treated with Cuprofix as compared to 2 or 3 rating without Cuprofix.

The reports indicate that there is no migration of color while in the wet state. In many cases, the results are said to be greatly superior to diazotized and developed colors. In certain cases, light fastness has shown improvement.

Cuprofix is a cation-active resinous compound to be used with certain colors indicated as Cuprofix colors. It is a pale, greenish powder easily dissolved in hot water.

The process calls for a short after-treatment with 1 to 3% of Cuprofix at a temperature of 160° F. following the usual procedure for direct colors. After the yarn has been rinsed well to remove all traces of salt or other anion-active materials, the previously dissolved Cuprofix is added to the cold fresh bath. The temperature is then raised to 160° F. and run at this temperature for 30 min.

Dyestuffs designated as Cuprofix colors include the following:

Rubinole BL	Violet 2BL
Yellow GLE	Navy blue SL
Blue LUL	Brown GL
Blue RUL	Black C Conc.
Blue 2GL	Black OB Conc.
Blue 4GL	Grey R
Red 5BL	

Alkali-Stable Emulsifiers Announced

Two new surface-active agents under the trade name BRIJ have been developed by Atlas Powder Co., Wilmington 99, Del. The agents are for use in emulsifying or wetting where stability to high alkalinity or acidity is of primary importance. Samples and commercial quantities are available.

Both products are polyoxyethylene lauryl alcohols. BRIJ 30 is said to be generally water dispersible and oil soluble, being slightly more hydrophilic than SPAN 20 (sorbitan monolaurate). BRIJ 35 is said to be water soluble, and compares in hydrophilic characteristics to TWEEN 20 (polyoxyethylene monolaurate). The SPAN and TWEEN products are trademarked materials of Atlas Powder Co.

The following are general characteristics of the BRIJ products.

	BRIJ 30	*BRIJ 35*
Form at 250° C.	Oily Liquid	Waxy Solid
Viscosity (cp. at 250° C.)	25 to 125	.....
Titer	.....	35 to 36
Specific gravity	0.92 to 0.98	1.18 to 1.22
Color	Lemon	White

Impact Resistance

(*Continued from page 155*)

In cot covers, the filling yarns bear the brunt of impact load because they run the short dimension of the cover, hence are capable of less elongation. Impact durability of the cotton chafer duck was measurably improved by controlling the crimp to produce increased filling crimp and decreased warp crimp. Increased filling crimp was produced by applying extra tension to the warp yarns during weaving.

Four test fabrics were woven in which warp-filling crimp ratio was progressively varied from 1-to-2 to 1-to-0.7. Test results of the four fabrics are shown in Table II.

Improvement in the samples was directly attributable to increased filling crimp and decreased warp crimp. Greater impact resistance was obtained even though the fabrics were only slightly higher in breaking strength than the standard sample and actually lower in total (warp plus filling) elongation.

Tests of an 18-oz. chafer duck, a 24 oz. No. 4 gray cotton duck, and a 24-oz. axminster gray cotton duck revealed that filling breaking strength and filling-impact tearing strengths of the fabrics had no relation to impact durability. Test figures are shown in Table III.

Table III
Relation of Filling, Tearing, and Breaking Strength to Cover Impact Resistance

Properties	Specification Gray Cotton Chafer Duck (18-oz.)	No. 4 Gray Cotton Duck (24-oz.)	Axminster Gray Cotton Duck (22-oz.)
Filling breaking strength (1-in. ravel strip, lb.)	215	290	230
Filling impact tearing strength (in.-lb./in. tear)	71	77	229
Cover impact durability 8-in. drop (No. blows sustained)	117	4	2

***CHAFER FABRIC** is superior in impact resistance despite superior yarn and fabric strengths of heavier cotton ducks.*

Looking for a way to . . .

- ☐ Increase production?
- ☐ Reduce spoilage?
- ☐ Improve your safety record?
- ☐ Minimize personnel turnover?
- ☐ Cut operating costs?

Check all five when you modernize your plant with DAY-LINE* industrial fluorescent lighting fixtures

UP! UP! UP! Yes, production goes up when Day-Line fixtures go up. Planned Day-Line fluorescent lighting provides easier, more accurate vision, eliminates fatigue due to eyestrain. Result: Less spoilage, more economical operation, greater profits. And two plus values: fewer accidents . . . and less turnover in personnel because your plant is a bright, cheery place in which to work.

RUGGED and trouble-free! Day-Line heavy gauge steel channels are engineered for *extra* strength. Reflectors are finished in porcelain enamel to furnish a high reflection factor. Turret* sockets assure simple, quick lamp mounting. Reflectors can be completely removed for cleaning and servicing in less than a minute . . . no tools required. It's Day-Line for *long life . . . easy maintenance!*

There is a Day-Brite representative near you to help you engineer your plant lighting for maximum efficiency. Ask him for his help; there's no obligation. And write now for Bulletin 30-A-2, for complete details of Day-Line fixtures.

Day-Brite Lighting, Inc., 5435 Bulwer Avenue, St. Louis 7, Mo.
In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario

*T.M. Reg. U.S. Pat. Off.
U.S. Patent Nos. 2317434, D-135375 and D-133458.

179

IT'S EASY TO SEE WHEN IT'S

DAY-BRITE *Lighting*

Distributed nationally by leading electrical suppliers.

LEAD VALVES

Control Hungry Acids

Chem Rayon "Y" Pattern

Type C "Y" Pattern

Men who need to tame biting acids and put them to useful work have long relied on lead. And they look to the leader in lead . . . National Lead Company . . . for dependable lead and lead-lined acid valves.

National Lead's "United" valves work efficiently at their routine jobs of controlling the flow of corrosive acids. But they also have the built-in stamina and sturdiness to withstand stresses and overloads well beyond their regular lines of duty.

Wedge Type Gate Pattern

The "United" valve you buy is representative not only of National Lead's resources in the lead products manufacturing field but also of resourcefulness in designing acid valves that make the most of lead's inherent corrosion-resistant properties.

Type D Check

Under the name "United," National Lead Company offers a complete line of hard lead and lead-lined flanged acid valves —"Y" and angle patterns, gate, check, foot and diaphragm.

Chem Rayon Angle Pattern

Diaphragm Pattern

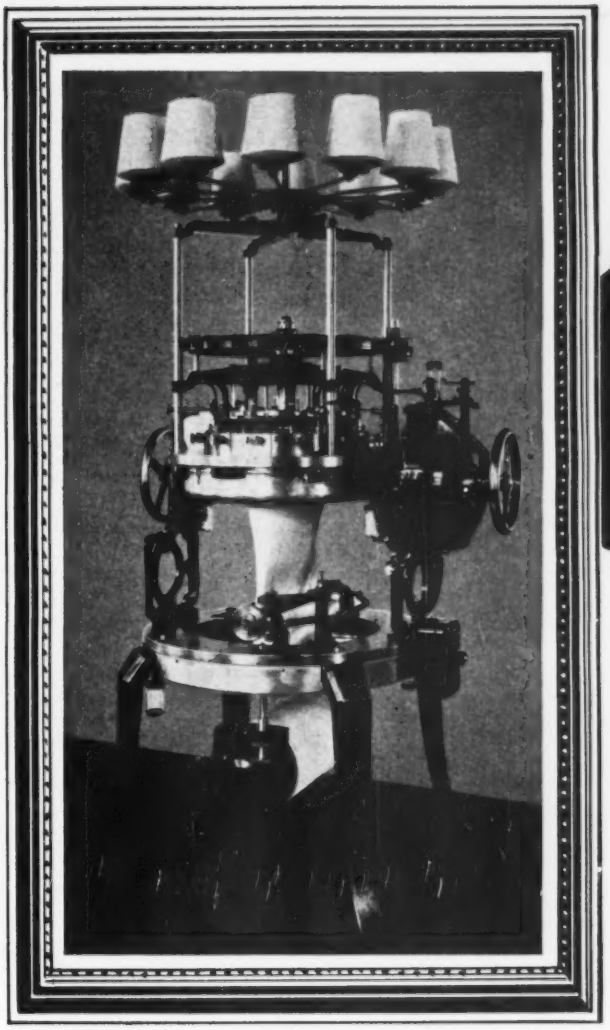
Type R Reversible-Angle or "Y"

Look to the Leader for Lead

. . . in everything from lead pipe . . . valves . . . sheet . . . and lead-lined or lead-covered equipment . . . to complete acid recovery plants.

NATIONAL Lead Company

New York 6; Baltimore 3; Buffalo 3; Chicago 8; Cincinnati 3; Cleveland 13; Pittsburgh 12; St. Louis 1; Boston 6, (National Lead Company of Mass.); Los Angeles 23, (Morris P. Kirk & Son, Inc.); Philadelphia 23, (John T. Lewis & Bros. Co.); Atlanta (Georgia Lead Works, Div. of Cincinnati Branch); Toronto, Canada (Canada Metal Co. Ltd.).



A PICTURE OF BETTER PRODUCTION FOR YOUR MILL

A NEW WILDMAN MACHINE

that can be adapted to your most intricate or simplest knitting operation . . .

We'll be very happy to show you this new WILDMAN with its many outstanding features. In the meantime, may we tell you that:

- It is so flexible our engineers can adapt it to your every knitting product demand.
- Its beautiful workmanship, so perfect, so consistent, offers an exceptional accuracy in garment sizes and practically unlimited style opportunities.
- The ability to tie cone to cone without stopping the machine is just another of its many advantages.

WILDMAN MFG. CO. • NORRISTOWN, PA.

3 McGRAW-HILL BOOKS
of practical value to
TEXTILE MEN

Examine them at our expense

1. RAYON TECHNOLOGY

Here is a wealth of information on rayon staple as used in cotton, worsted, woolen, synthetic, knitting, and finishing mills and on the special equipment of each. This handbook describes winding, throwing, warping, slashing, quilling, and weaving operations . . . it discusses the construction of rayon fabrics, both those made of continuous filaments and those made of continuous filaments supplemented by spun yarns.

This practical book offers a compilation of advanced practices, written by outstanding technicians in the textile industry. It brings concrete information to operating personnel in textile mills of all sizes.

Prepared by members of the staff of the Textile Research Department of the American Viscose Corporation, 270 pages, 6 x 9, 81 illustrations, $3.75

2. INSTRUMENT and CONTROL MANUAL for Operating Engineers

You'll be able to solve your metering and control problems quickly and accurately with this guide. It shows you how to install, operate, and maintain control instruments and control systems. It is a practical manual for the man in the plant who needs fingertip information for solving specific metering and control problems.

This book gives you clear explanations of the basic principles of control and descriptions of the construction and operation of liquid level, pressure, temperature, speed, and humidity indicators and controllers. Includes all the information you need to correct troubles that upset control systems.

By Eugene W. F. Feller, Operating Engineer; Associate Editor, POWER, 426 pages, over 500 illustrations, and charts, $6.00

3. PRINCIPLES OF HIGH-POLYMER THEORY and PRACTICE

This handy book shows you how the fundamentals of physics, chemistry, and engineering are applied to high-polymer materials. It covers textiles, plastics, rubbers, fibers, surface coatings, adhesives, etc., explaining their formation, properties, manufacture, fabrication, and applications. Includes a concise discussion of fibers—their classification, structure, attributes of form and dimension, mechanical properties, disalignment tendency, behavior towards moisture, shrinkage, drying characteristics, etc.

An encyclopedia of high-polymer data, it gives you a solid grounding on all high-polymer phenomena—information which better equips you for research and development work in the textile field.

By Alois X. Schmidt, Asst. Prof. in Chem. Eng., and Charles A. Marlies, Assoc. Prof. in Chem. Engin., College of the City of New York. 743 pages, 268 illustrations, 121 tables, $7.50

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Improved Fluorescent Fixtures

Two new types of commercial fluorescent fixtures which feature low brightness ratios and simplicity of installation and maintenance have been announced by Day-Brite Lighting, Inc., St. Louis, Mo. Designed for use singly or in continuous units, the fixtures are of all-metal construction. One type accommodates two 48-in. 40-w. lamps and has a V-shaped center louver. The other type holds four 48-in. 40-w. lamps. A concealed adjustment allows leveling to be done after installation and line connections are completed.

Arc Welders

A group of a.c. and d.c. arc-welding machines as a companion line to its electrodes and welding accessories has been announced by Metal & Thermit Corp., 120 Broadway, New York 5, N. Y. The a.c. unit features built-in power-factor corrector; fingertip, stepless current control; fan-forced ventilation and moderate open-circuit voltage operation. It is available in 150-, 200-, 300-, 400-, and 500-amp. capacities. Major feature of the d.c. models is a one-dial simplified control panel which carries outlets for electrodes of different diameters. Motor-driven d.c. units are available in 150-, 200-, 300-, and 400-amp. capacities at either 3,600 or 1,750 rpm.

Filters for Corrosive Liquids

A series of filters constructed of saran-lined steel pipe and fittings and rubber-lined filter and precoat tank has been developed by Titeflex, Inc., 431 Frelinghuysen Ave., Newark 5, N. J. The filters can be used at temperatures between 0° and 180° F. for general service. Both the saran and the hard-rubber feature high corrosion resistance, good insulating properties, and resistance to erosion or abrasion. Suspended particles down to 1/10 micron are said to be removed by the washable filtering medium which is supported by a rigid synthetic membrane of porous stone.

Protective Mask

A new protective mask which prevents irritation of throat, nose, and bronchial tubes from larger particles of non-toxic dusts has been announced by General Scientific Equipment Co., 2700 West Huntingdon St., Philadelphia 32, Pa. Weighing less than ½ oz., the mask consists of a plastic shield and replaceable filters. The mask is said to be cooler and more comfortable than other types, and to be very inexpensive.

High-Temperature a.c. Induction Motor

A totally-inclosed, non-ventilated motor featuring the use of silicone resins for winding insulation and silicone grease for bearing lubrication has been announced by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. The silicone stands higher temperatures and permits large reductions in motor size from present standard Class A insulated, totally inclosed motors. Efficiency, power factor, and torque are said to be comparable to those for an open motor of the same rating.

Low-Temperature Permanent-Repair Alloy

A low-temperature, bronze-base, permanent-repair alloy that is as soft as putty at 300° F. and fuses with the metal surface under repair has been developed by The John Hewson Co., 70 Wall St., New York 5, N. Y. The manufacturer states that the finished repair can be machined, filed, drilled, or tapped, and that the low temperature will not cause crystallization or distortion. It is also claimed that the alloy will not corrode, run, crumble, shrink, or dry out, and that it works with any metal except aluminum or its alloys. The alloy is being used to repair pumps, cylinders, pipes, and water jackets.

Corrugated Rubber Mats

Corrugated mats made of rubber links woven on a 12-gage spring-steel wire to provide sure footing and reduce worker fatigue are offered by General Scientific Equipment Co., 2700 West Huntingdon St., Philadelphia 32, Pa. The mats are adapted for use where moisture, oils, chemicals, or abrasives may be on the floor, as the rubber resists deterioration. Positive under-foot protection on walking surfaces, loading platforms, washroom floors, elevators, etc. is claimed for the mats.

Portable Air Compressor

A self-contained, air-cooled, gasoline-engine-driven portable air compressor has been developed by Ingersoll Rand Co., 11 Broadway, New York 4, N. Y. The two-cylinder, single-stage compressor has a piston displacement of 37.5 cfm. at 80 psi. It is equipped with an automatic unloader which permits constant-speed operation. The unit is mounted on pneumatic tires and has a ball-and-socket-type trailer hitch.

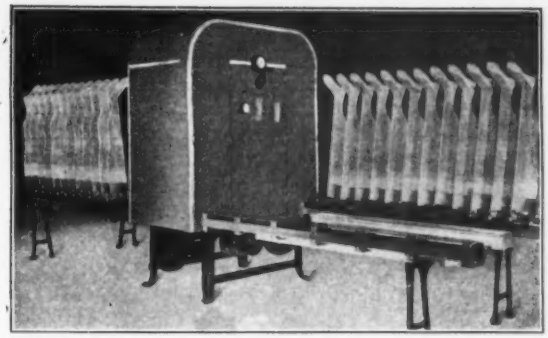
Magnetic Disk Brake

A magnetic disk brake for fractional-horsepower application has been announced by Stearns Magnetic Mfg. Co., Milwaukee 4, Wis. The new brake is offered for continuous or intermittent duty on a.c. or d.c. operation and is adaptable for motor or floor mounting and for horizontal or vertical operation, all as specified. The brake is suitable for motors of ¼, ⅓, ½, ¾, and 1 hp.

Work Holder and Positioner

Two improved models of the Powrarm for positioning work and holding it under

(*Continued on page 282*)



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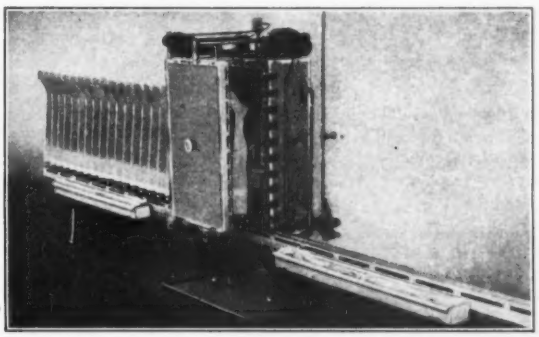
Here is a machine for simplicity in preboarding fine denier hosiery. Accommodates 36 forms which are easily removable. Electrically operated. A.S.M.E. approved pressure chamber.



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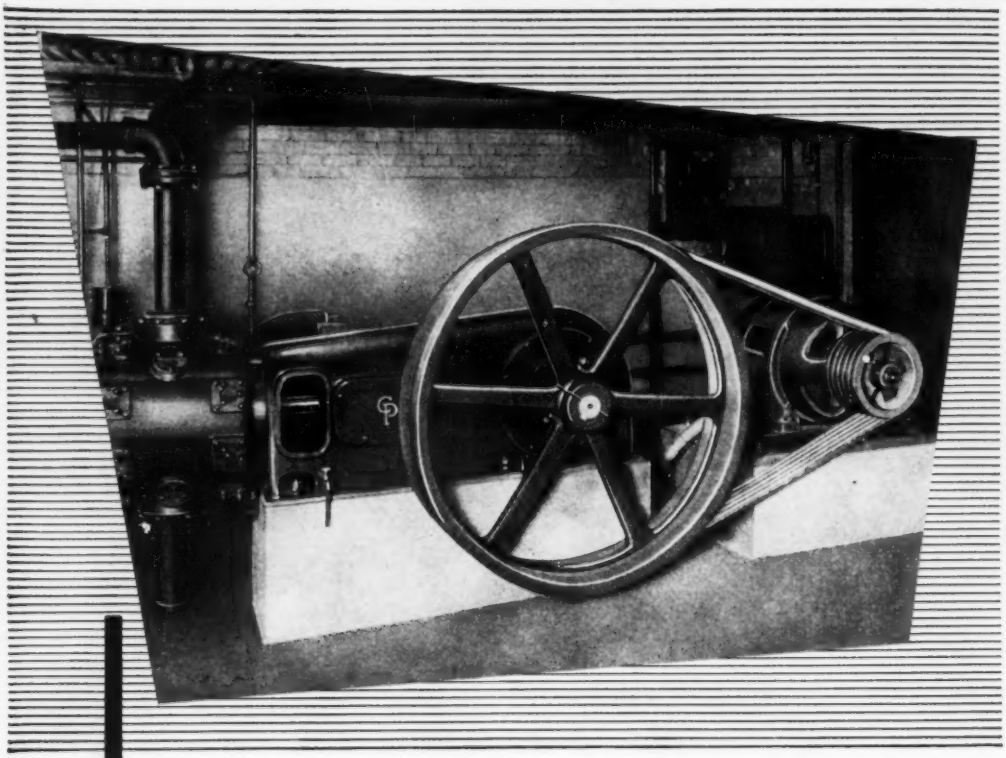

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Type TB Compressor is furnished in sizes from 89 to 1937 c.f.m., with V-belt, flat belt, and direct-connected synchronous motor drive. Single and multi-stage designs for pressures up to 5,000 pounds, and steam-driven types are also available.

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pressure have been developed by Wilton Tool Mfg. Co., 936 Wrightwood Ave., Chicago 14, Ill. One type is mechanically operated for light work, and the other type is operated hydraulically for heavy work. Both models position the work at any desired angle on a 360° horizontal or axial plane, or on a 180° vertical plane. Work up to 150 lb. in weight can be handled. The unit is said to eliminate awkward, unnatural positions that cause worker fatigue and inaccurate work.

Mill Maintenance

Design, Speed, Temperature Affect Choice of Lubricant

Bearing lubrication demands much attention in every mill and represents a significant expenditure in labor and supplies. It is recognized that neglect in selecting proper lubricants and in applying them according to an adequate schedule will result in machinery being "on the floor."

JOURNAL BEARINGS. The main job of a lubricant in a plain bearing is to form an oil film on the bearing to prevent moving metal surfaces from touching each other and generating friction heat. The size of the bearing does not affect the choice of a lubricant. Usually, a bearing is designed so that the weight load is distributed over the bearing surface, and few textile-mill bearings require the use of extreme-pressure lubricants.

Operating conditions of speed and temperature must be considered because they affect the viscosity of the lubricant. Higher speeds permit the use of lighter lubricants. Low temperatures thicken lubricants, making them more viscous and more resistant to flow. In selecting a lubricant, these factors of speed (which, in general, requires a lubricant that flows well for higher speeds) and temperature (which causes a lubricant to become thinner and increases flow as temperature rises) must complement each other.

Another condition that influences the choice of a lubricant is the necessity, in some applications, for the lubricant to protect the bearing against dust, lint, water, and other contaminants. If sealed bearings are not used, the only protection the bearing has is the oil or grease.

When the lubricant leaks from a bearing, it is usually necessary to use grease rather than oil. A fault of greases that occurs frequently because the wrong grease has been used is the separation of the lubricating agent from the body, or carrier agent.

The four qualities to look for in any lubricant (oil or grease) are:

1. Low consumption by bearings.
2. Long trouble-free bearing and lubricant life.
3. Minimum friction, heat, and wear.
4. High resistance to thinning or thickening.

ANTIFRICTION BEARINGS. The purpose of using a lubricant in antifriction bearings are to prevent contact of moving metal surfaces, to protect the finish on the bearing-parts surfaces, to prevent friction, and to protect the bearing parts from dust, dirt, water, etc.

Oil is usually the best type of lubricant to use in a high-speed bearing and in a bearing that operates at a low temperature. In many cases, the bearing is not oil-tight and grease must be used. Grease is preferable to oil in a bearing that runs at low speed or high temperature.

A mistake to guard against is overlubrication, particularly in a bearing that runs at high speed. Drag is caused by too much lubricant as well as by too heavy a lubricant. Drag, of course, generates heat. For high-speed bearings (3,600 rpm. and above), only enough lubricaat to maintain a thin film on the bearing parts should be used. At lower speeds, the oil level should be up to the center of the lowest ball or roller in the bearing. If grease is used, the housing should never be more than one-quarter to one-half full.

In addition to the four lubricant qualities pointed out for plain bearings, a lubricant used in an antifriction bearing should:

1. Stand up under severe churning action.
2. Be chemically neutral.
3. Be free of filler or abrasives.
4. Prevent corrosion of bearing parts.

GEARS. Lubrication of gears should reduce wear, power loss, and noise. Often a gear running hot is the result of using an oil that is too heavy. Gear oil should flow freely in order not to create friction. If heat is caused by an overload on the gear, extreme-pressure lubricant may be required.

Foaming of an oil bath is usually caused by impurities in the oil or the use of an oil that is too thick.

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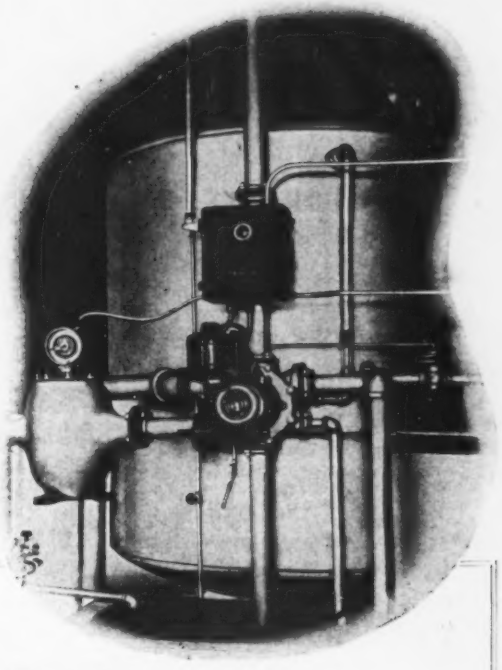

Have Permutit modernize your water softener . . .

AUTOMATIC—Permutit, with its multi-port valve, will rebuild a manually regenerated unit into an electrically controlled, fully automatic water softener. Permutit's electric-automatic controls guarantee a constant supply of zero water!

GREATER CAPACITY—Permutit, through 35 years of intensive research, has greatly increased the exchange capacity of its zeolites. In many cases, present day Permutit ion exchangers will double and triple the capacity of your water softener.

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Permutit's low-cost water softener reconditioning saves many man hours, yet increases both the quality and supply of softened water.

Have Permutit engineers analyze your present water softener without obligation. Their recommendations will mean extra profits! Write to The Permutit Company, **Dept. TW-2,** 330 West 42d St., New York 18, N. Y., or to the Permutit Company of Canada, Ltd., Montreal.

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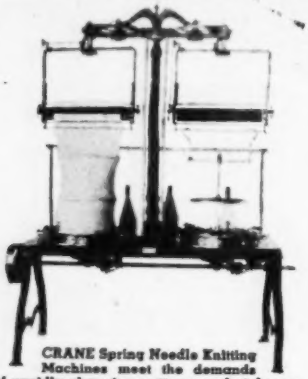

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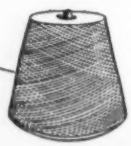


Books of Interest

A Well Set Up Dictionary

COMPREHENSIVE DICTIONARY OF TEXTILE TERMS, by Alfred Higgins and R. L. La Vault; Dover Press, Fall River, Mass.; 138 pages. .

This is the latest addition to the growing list of textile dictionaries and glossaries. It possesses by far the best typographical presentation of any of these volumes which we have seen and shows a generally intelligent approach to the difficult task of defining textile terms. All the words defined are set up with initial capital letters which gives easy reading but makes it impossible for one who does not otherwise know to determine whether the words are proprietory brands, proper nouns, or common nouns. We hope that some day one of these textile dictionaries will carry not only indication of capitalization but also of preferred pronounciation as in a regular dictionary. This one does not.

The batting average of the editors of this work is necessarily very high as they have had years of experience in teaching at Bradford Durfee Technical Institute. But synthetic-yarn makers will not be too pleased to find "synthetic silk" in several places in the book. Nor will the twist experts care for the fact that right and left twist are defined in terms of S and Z and vice versa. "Tubular fabrics" are limited to woven types, and a "slub" is defined only as a defect. Such minor deviations from perfection are less than in most works of this type.

Air-Conditioning Study Made by TWUA

AIR CONDITIONING IN TEXTILE MILLS: Research Dept. Technical Report, Textile Workers Union of America, CIO, 99 University Pl., New York 3, N. Y.; 60 pages, 50¢.

TWUA has prepared this study of atmospheric conditions in a mill in relation to air-conditioning systems and operatives' efficiency and comfort. Chap. IV surveys the equipment generally used to control temperature and humidity and describes the central-station and atomizer system with refrigeration, atomizers alone, window fans and atomizers, central station with saturated air, combination central station and atomizer system, unit system, etc. Appendix gives a model bill for state legislatures to expedite the TWUA program to require by law that employers "maintain atmospheric conditions for no higher than an effective temperature of 80°."

Engineering Data on Pumps and Pipes

STANDARDS OF HYDRAULIC INSTITUTE; Hydraulic Institute, 90 West St., New York 6, N. Y.; 216 pages, $3.00.

The Hydraulic Institute, which is an association of principal pump manufacturers, has collected in this volume what is considered good engineering practice in the pump industry. It is believed that the definitions, customs, principles, and practices contained in the six major sections of the book will be of mutual advantage as standards to buyers and sellers of pumps as well as to the engineering profession. The latest tables and data on pipe friction comprises 82 pages. There are many other useful formulas, charts, and general data included.

A Guide to Safety Posters

1949 DIRECTORY OF OCCUPATIONAL SAFETY POSTERS; National Safety Council, 20 N. Wacker Drive, Chicago 6, Ill.; 74 pages, 50¢.

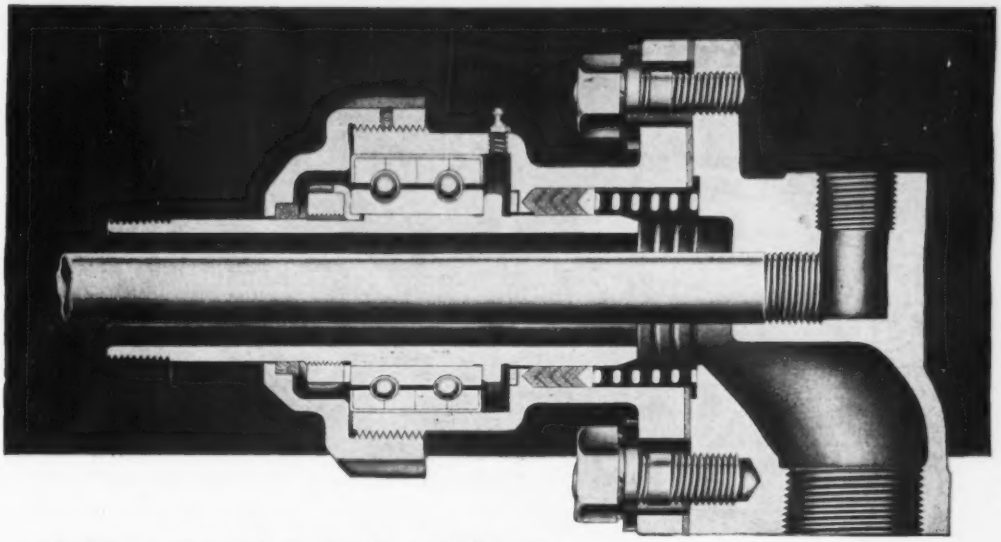
This illustrated listing of safety posters presents 744 posters in miniature size classified under 15 general sections. The actual posters for mill use come normally in three sizes—8½x11½ in., 17x23 in., and 25x38 in. There are also 8-sheet billboard versions which are 11 ft. 8 in. wide by 9 ft. 11 in. high. Electros in 1⅞x2¾-in. size are also available. This catalog should prove helpful to a mill's personnel department or its safety director.

Other Books of Interest

THE WASTE TRADES ANNUAL AND DIRECTORY (World directory covering statistics and business firms in 52 countries); British-Continental Trade Press, Ltd., 222 Strand, London W. C. 2, England; 346 pages, $5.00.

ALUMINUM ALLOYS AND MILL PRODUCTS, Reynolds Metals Co., Inc., Louisville, Ky.; 162 pages, $1.00.

A SHORT COURSE IN HUMAN RELATIONS; Dartnell Corp., Chicago 40, Ill.; 50 pages, 25¢.



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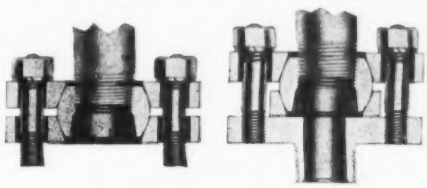

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Cross-section view of Barco Ball Flange for use on threaded and flanged rolls and for correcting roll misalignment. Sleeve can rotate concentric even though threads on roll are tapped off center.

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Textile weaving and finishing plants have found Barco highly successful in lowering maintenance time and costs. This special revolving joint is used on all types of rotating applications, including slashers, calenders, sanforizers and dry cans. Barco minimizes steam leaks and its lower turning torque reduces power costs.

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Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

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News of the month

Big Knitting Show. The Knitting Arts Exhibition of 1949, scheduled for the week of April 25 at Atlantic City, N. J., will probably set an all-time record in size and variety of exhibits. On Dec. 11, applications for space had exceeded the total space sold at the KAE of 1947 which had set a record up to that time. Anticipating that the success of 1947 would produce an even bigger exhibition in 1949, the management enlarged the exhibition floor space by 10%.

India Tries Out Sea Island Cotton. BOMBAY, India (*McGraw-Hill World News*)—North Carolina Sea Island cotton appears suited to Indian climatic conditions, according to the Indian Central Cotton Committee. Two plants were grown last year on the committee's grounds from imported seed. Each plant produced 50 bolls, and the pooled yield of eight bolls gave an average staple of 1.62 in. compared with 1.76 in. average of the mother plant. The fiber was considered suitable for spinning counts of 120s and up.

To Stop Misuse of Term "Mohair." A campaign to end misuse of the term "mohair" in upholstery fabrics and other products containing little or no mohair was put into motion at the annual convention of the Texas Sheep & Goat Raisers Association, San Angelo, Tex. The campaign includes application to the Federal Trade Commission for rules governing the use of the word "mohair," notification to Better Business Bureaus of the "gross deceptions" being practiced upon the public, and drastic legal action against offenders.

Russian Wool Mystery. MELBOURNE (*McGraw-Hill World News*)—There need be no mystery about Russia's enormous purchases of Australian wool during the last few months. Russia has run up big sterling credits under the Anglo-Soviet trade agreement, and there is nothing in the agreement to prevent the Russians from liquidating these credits in the dominions. However, what really gives American wool buyers in Australia the creeps is the sudden Russian switch from low-grade "military" types of wool (crossbred and comeback) to superfine merino fleeces. These are practically grown for U. S. mills, rarely attract other buyers. But under frantic Russian bidding, almost the entire offering at recent Australian auctions has been knocked down to the Russians. Ameri-

Textile Calendar

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949. ASTM committee week and spring meeting, Chicago, Feb. 27 to Mar. 4, 1949.

Philadelphia Textile Manufacturers Association, winter dinner, Union League Club, Philadelphia, Mar. 1, 1949.

National Cotton Council, 11th annual meeting, Los Angeles, Calif., Mar. 7 to 9, 1949.

American Cotton Manufacturers Association, annual meeting, Palm Beach., Fla., Mar. 31, Apr. 1 and 2, 1949.

AATCC, Piedmont Sect., R. E. Lee Hotel, Winston-Salem, N. C., Apr. 2, 1949.

American Gas Association, sales conference on industrial and commercial gas, Andrew Jackson Hotel, Nashville, Tenn., Apr. 5 to 7, 1949.

National Knitted Outerwear Association, annual meeting, Waldorf-Astoria Hotel, New York, Apr. 7, 1949.

American Institute of Electrical Engineers, electronic conference, Statler Hotel, Buffalo, N. Y., Apr. 11 and 12, 1949.

Knitting Arts Exhibition, Atlantic City, N. J., April 25 to 29, 1949.

National Association of Hosiery Manufacturers; annual meeting, Hotel Claridge, Atlantic City, N. J., Apr. 25, 1949.

Annual Hosiery Industry Conference, Hotel Claridge, Atlantic City, N. J., Apr. 25 and 26, 1949.

Third Annual International Textile Industries' Exposition, Grand Central Palace, New York, N. Y., May 2 to 7, 1949.

National Cotton Week, May 9 to 14, 1949.

National Packaging Exposition, 18th Annual Show Auditorium, Atlantic City, N. J., May 10 to 13, 1949.

Carolina Yarn Association, annual outing, Carolina Hotel, Pinehurst, N. C., May 12 to 14, 1949.

Tufted Textile Manufacturers Association, annual meeting, Atlanta Biltmore Hotel, Atlanta, Ga., May 26 to 28, 1949.

Textile Wet Processing Equipment & Supplies Exposition, 71st Regiment Armory, New York, N. Y., June 6 to 10, 1949.

AATCC, Piedmont Sect., Ocean Forest Hotel, Myrtle Beach, S. C., June 24 to 26, 1949.

American Society for Testing Materials, first West Coast meeting, Fairmont Hotel, San Francisco, Calif., Oct. 10 to 14, 1949.

Cotton-Textile Institute, annual meeting, New York, Nov. 3, 1949.

AATCC, Piedmont Sect., Charlotte Hotel, Charlotte, N. C., Nov. 5, 1949.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

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Kills many putrefactive bacteria which cause disgusting odors.

Replaces disagreeable smells with fresh, pleasant tang of eucalyptus.

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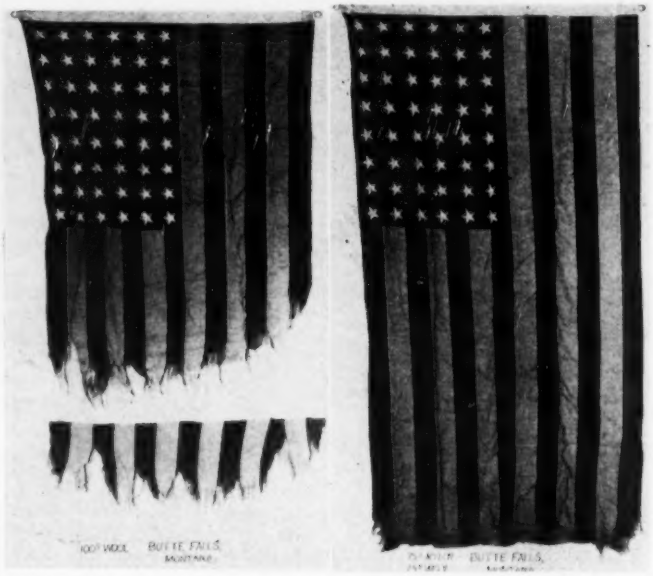
cans were glad to pull away a few odd lots, and these at the highest prices in history. Current predictions are that Russia may take 500,000 bales this season which is more than the U. S. took last season. Apparently Russia has satisfied the Australian authorities that it is using the wool in its own mills, or at least that it is not planning resale to the U. S. If there were a reasonable suspicion that the Russians are liquidating their sterling credits to obtain dollars that should go to Australia, the Australian Department of Trade & Customs has powers to clamp down on the wool shipments.

Indian Machinery Firm Short of Capital. BOMBAY, India (*McGraw-Hill World News*)—Wariness of the financial market and government red-tape are blamed for the failure of the National Machinery Manufacturers, Ltd., to materialize as India's key source of textile equipment. The company was to function under the guidance of Textile Machinery Makers, Ltd., a British combine. Two years after the scheme first was announced, and more than a year after incorporation, the company still is $150,000 short of the $3,750,000 initial investment required, and Bombay provincial requirements have stalled land procurement. Backers are considering cutting the proposed capacity in half to stay within their financial means.

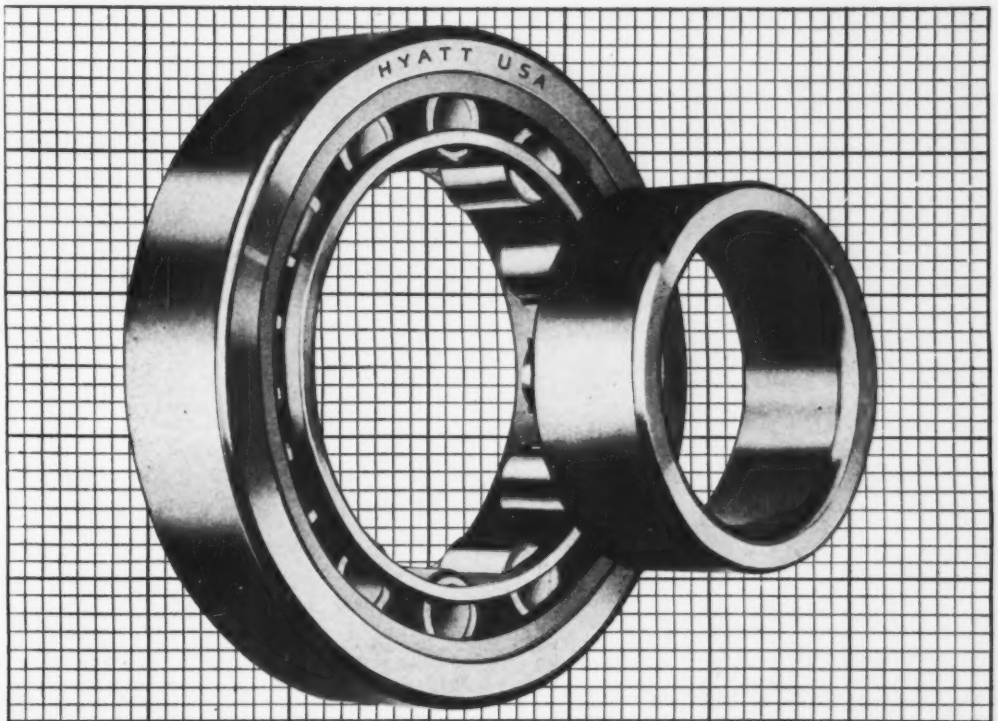
Bill for Air Conditioning. A bill seeking mandatory air-conditioning of Georgia textile mills will be introduced at the coming session of the General Assembly. The bill will be introduced at the request of TWU and would provide for the regulation of temperature and humidity in mill work rooms below certain maximums.

N. Y. Show in June. Textile Wet Processing Equipment & Supplies Exposition, originally set for March, has been postponed to June 6 to 10 at the 71st Regiment Armory, New York.

A Textile Museum. Preservation of the Old Slater Mill in Pawtucket, R. I., first successful cotton mill in America, as a textile industry museum will be accomplished by raising an endowment fund of $300,000. H. Nelson Slater, retired textile manufacturer and great-grandson of the old mill's



NYLON BLEND IMPROVES FLAG. *Flags made of 75% cut-staple nylon and 25% wool give evidence of a service life at least three times as long as the standard all-wool flags, according to tests conducted by the Quartermaster Corps. The blend retains brightness of colors, resists soil, and can be washed without appreciable shrinkage. Pictures show at left an all-wool bunting flag flown from Aug. 25, 1947 to Dec. 24, 1947, at Butte, Montana. At near the middle of the 121-day test, the frayed portion was cut off (shown in lower part of picture) and the fly then rehemmed. At the end of the test, the foreshortened flag was again frayed as shown. At the right is shown the nylon-wool blend flag flown at the same place over approximately the same period plus 35 days (Aug. 25, 1947 to Jan. 28, 1948—156 days). Fraying is only just beginning to start.*



Smart Mill Operators team up with Hyatts

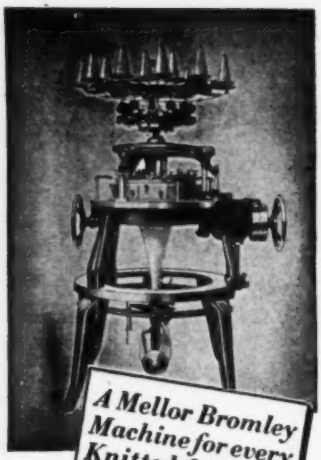
YEARS ago leading loom builders proved the superiority of Hyatt Roller Bearings for certain positions.

And their judgment has been justified for there are thousands of looms where Hyatts have been operating for over twenty years with practically no cost for maintenance.

It will pay any mill operator to specify Hyatts for crank-shaft, cam shaft, rocker shaft, take-up shaft, yarn beam and whip roll positions. Very little lubrication is required, and oil or grease will not leak on fabric or floor.

Write us for information about Hyatt Roller Bearings for looms, preparatory and finishing machines. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

HYATT ROLLER BEARINGS



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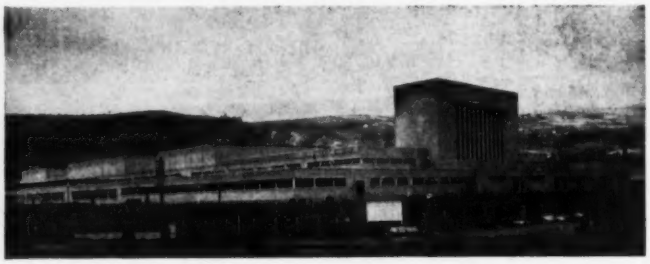


BRITISH NYLON SPINNERS, LTD., has erected this new plant for production of nylon at Pontypool, Monmouthshire, England. The spinning tower is shown in front of building. The plant, which cost in its entirety £8,000,000, has an annual capacity of 10,000,000 lb. When it starts up in fall, 1949, it will be the sole source of nylon yarn in Britain. The floor space in the plant is 1,000,000 sq. ft.

founder, Samuel Slater, said the funds will be administered by the Industrial Trust Co. of Pawtucket as trustee, with an advisory committee of five members serving without compensation. The industry-wide committee which will undertake to raise the fund includes Albert E. Noelte, treasurer of Priscilla Braid Co., Central Falls, R. I., and president of the Old Slater Mill Association, which has owned the mill and maintained it as a relic for many years; Norman A. MacCall, president and treasurer of Lorraine Mfg. Co., Pawtucket; Hugh Bolton, president of Whitin Machine Works, Whitinsville, Mass.; W. J. Carter, vice president of J. P. Stevens & Co., Greensboro, N. C.; Hugh Comer, president of Avondale Mills, Sylacauga, Ala.; M. D. C. Crawford, research editor of Fairchild Publications, New York; Harry Dalton, vice president of American Viscose Corp., New York; and Erwin Darrin, vice president of Draper Corp., Hopedale, Mass.

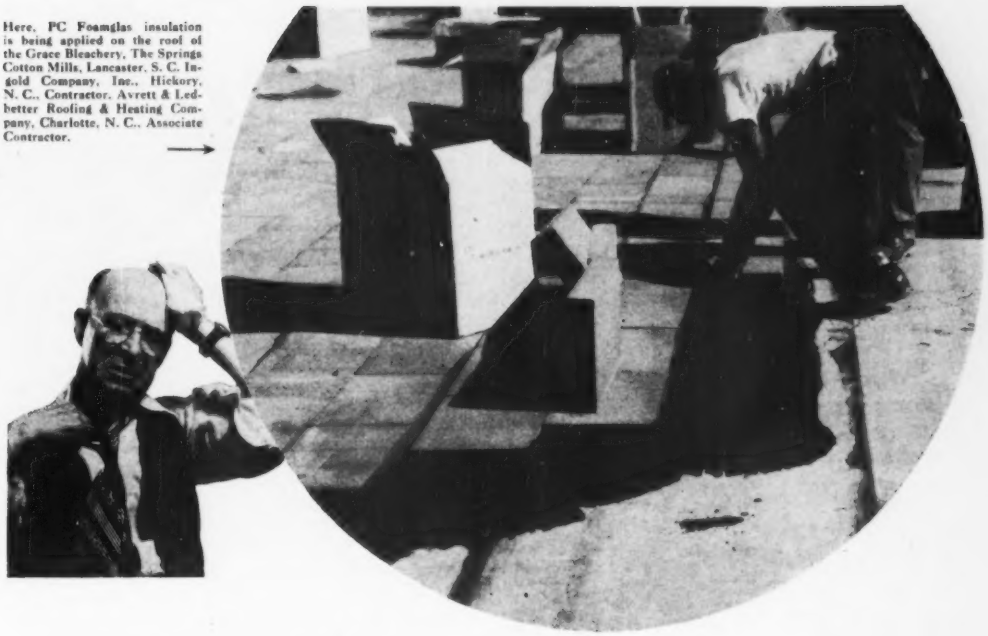
Wool Support Program. The U. S. Department of Agriculture's 1949 wool-price-support program will provide a national average wool price to growers of slightly more than 42¢ a lb. grease basis. This will approximate the 1948 wool price support level.

Bright Young Men Needed. A vital need of the textile industry in New England is bright young men who are willing to go into the mills and get dirty and learn the cotton-mill business from the staple to the finished cloth, according to H. H. Burton, president of Lonsdale Co., Providence, R. I. "There is a dearth of intelligent trained personnel upon whom New England mill operators can draw for mill management," Mr. Burton declares in a recent issue of the *Saturday Evening Post*, in a Men-at-Work article by Richard Thruelsen, associate editor. The article "Textile Trainee," tells the story of William P. Tukey, of Providence, who is learning the textile business by going through the mill, from department to department, as part of an on-the-job training course.

Kohorn Rayon Plants in Many Countries. Brazil, Chile, and Egypt were added in 1948 to the list of countries which are becoming self-sufficient in filament-rayon yarn and rayon staple. The Brazilian rayon plant, constructed by Oscar Kohorn & Co., New York, for Companhia Nitro Quimica Brasileira, Sao Paulo, is said to be the largest built anywhere in the world since the war. It will produce 20,000,000 lb. of viscose filament rayon and 5,000,000 lb. of staple fiber. The Chilean rayon and staple fiber plant built at Sanitago by Kohorn for Fabrica de Puente Alto S. A., was recently placed in production. Earlier in the year, the first rayon plant built in the Middle East was put into operation by Kohorn. It is the 10,000,000-lb. plant at Cairo, Egypt, owned by Societe Misr Pour La Rayonne S.A.E. The Kohorn unit erected for Artificial Silk Co., Ltd., Etma, of Athens, Greece, is operating its filament machinery and installing its staple department. The Arnold Spinning & Weaving Co. has purchased a filament-rayon unit for Kohorn for erection near Shanghai, China. Rayon Peruana S. A. at Lima, Peru, has been operating successfully since 1946.

Electronic Conference. The American Institute of Electrical Engineers will hold a conference on the industrial application of electron tubes at the Statler Hotel, Buffalo, N. Y., on April 11 and 12, 1949.

Here, PC Foamglas insulation is being applied on the roof of the Grace Bleachery, The Springs Cotton Mills, Lancaster, S. C. Ingold Company, Inc., Hickory, N. C., Contractor. Avrett & Ledbetter Roofing & Heating Company, Charlotte, N. C., Associate Contractor. →



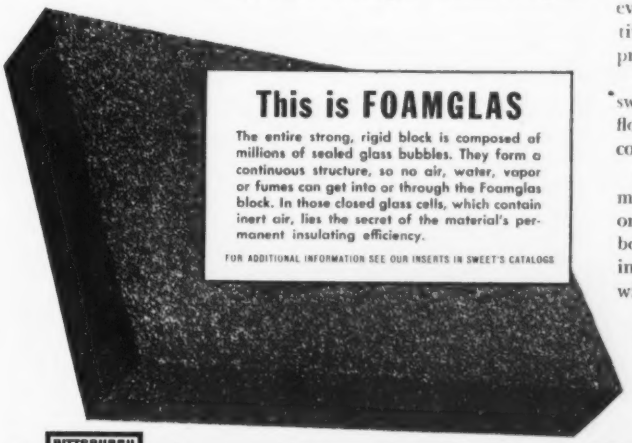
Beat the Humidity . . . with this permanent insulation

• The high humidity levels maintained in textile mills eventually cause many insulating materials to lose their insulating efficiency. But PC Foamglas—because it is glass—retains its original insulating efficiency permanently.

Composed of millions of tiny hollow glass cells, the big, rigid blocks of Foamglas do not even require a vapor seal to exclude destructive moisture. They are waterproof, fireproof, verminproof.

PC Foamglas does not rot, check, warp, swell or shrink. You can use it in walls and floors, on roofs and ceilings, without fear of costly repairs, maintenance or replacement.

When you are figuring on insulation, make sure you have complete information on PC Foamglas. Our latest authoritative booklets are yours for the asking. Just send in the convenient coupon and *free* copies will be forwarded to you.



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The entire strong, rigid block is composed of millions of sealed glass bubbles. They form a continuous structure, so no air, water, vapor or fumes can get into or through the Foamglas block. In those closed glass cells, which contain inert air, lies the secret of the material's permanent insulating efficiency.

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NEWS ABOUT Suppliers

Bullard Clark Co., Danielson, Conn., and Charlotte, N. C., has appointed Ralph M. Briggs, Jr., as Southern New England service engineer for its E. H. Jacobs Div. and the Williamsville Buff Div.

U. S. Textile Machine Co., Scranton, Pa., has appointed J. Saunders Williamson as its Southern representative, with headquarters in Greensboro, N. C. He was associated with E. M. Holt Plaid Mills, Burlington, N. C.; and following merger with Burlington Mills, Inc., in 1939, he was with the latter company for eight years. He was director of purchasing and an assistant vice president at the time of his resignation last fall.

Duesberg-Bosson of America, Inc., Fitchburg, Mass., is consolidating all production and engineering facilities at Fitchburg, Mass. Woolen machinery has been manufactured there since last spring in a plant purchased in 1946. The plant leased temporarily by the company in Providence, R. I., is being closed.

Draper Corp., Hopedale, Mass., has invested more than $2,500,000 since the beginning of the war on standing timber and bobbin-blank mills for improvement of its bobbin-making facilities. The company's timber lands comprise 150,000 acres. A new roughing plant at Tupper Lake, N. Y. will come into production in March or April. Draper's bobbin shipments in 1948 totaled about 25,000,000. With the new facilities, capacity should be increased to 28,000,000.

Kidde Mfg. Co., Bloomfield, N. J., has acquired the manufacturing and sales rights for the Aveco high-speed tricot machine from the American Viscose Corp. Kidde entered the knitting machinery field a few years ago as the producer of the Kidde Knitter, a warp-knitting machine of the Raschel type.

Union Special Machine Co., Chicago, has transferred Clarence L. Rosenquist from the Cincinnati office to New York as assistant manager under William Bleicher, and moved Paul Mason from New York to Cincinnati as assistant manager to A. E. Brauch.

Winsor & Jerauld Mfg. Co., Providence, R. I., has named Edmond J. Schiller, Jr., formerly application engineer in the textile-finishing division

TEXTILE MACHINERY, INC., has been formed as a division of Portland Copper & Tank Works, South Portland, Maine, by Harmon Hugo, general manager of the latter company, who is shown above seated at desk. The new company will make a full line of wet-finishing and dyeing equipment. Sales will be conducted by Frank Hugo (at right) and Lee Sherman Cass (second from left). At extreme left is Leo Gilbert, chief engineer. Mr. Cass was for many years sales manager of James Hunter Machine Co. The company will be housed in the existing plant with 90,000 sq. ft. of floor space equipped with the most modern machinery.

"ACCURATE"—"INSTANTANEOUS"

"WITHOUT WEIGHING THE SAMPLE"

GAUGE THE MOISTURE

IN RAW MATERIAL AND THROUGH THE PRODUCTION PROCESS

Custom built instruments to meet the needs of the individual user—in whatever range and sensitivity your application may require.

Tell us the nature of your moisture problem and ask us to lend you a meter calibrated for the application you have in mind.

- DIRECT READING in moisture content percentage without reference to charts, so simple in operation that even inexperienced operators can make several readings per minute.
- NO NEED TO WEIGH the sample. Nor is it necessary to know the temperature of the sample. Automatic temperature correction for temperature variation of the material being measured is a feature of this instrument.
- NO WARMING UP PERIOD—Despite the fact that the instrument operates from AC power line, readings are made in a matter of seconds.

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is work for specialists

When you look to Lewellen you employ the pioneer* in speed-control

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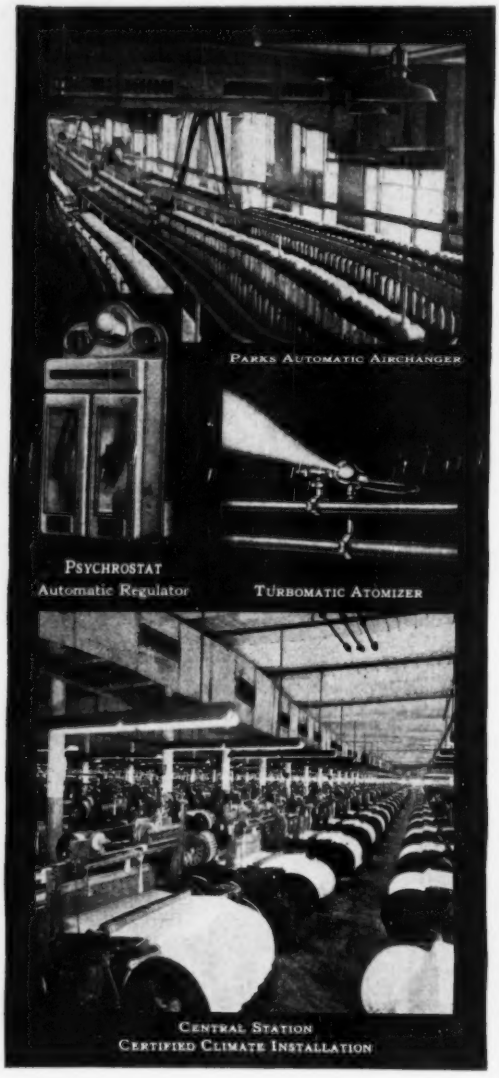
often pays for itself in a year



Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

NEWS ABOUT *Suppliers* (Continued)

with the Crocker-Wheeler Electric Mfg. Co., to be W. & J. southern sales representative. He will make his headquarters at Providence until a southern location is ready.

Monsanto Chemical Co., St. Louis, Mo., has transferred Dr. Donald H. Powers from the company's Merrimac Div. textile department in Boston to the General Development Dept. in St. Louis.

W. Arthur Smith, Jr., has resigned as engineering sales manager of the Carlyle Johnson Machine Co., Manchester, Conn., and plans to become a manufacturers' representative, concentrating on the sale of machine parts and transmission components requiring engineering application. His headquarters are at 1006 Main St., Hingham, Mass. He was formerly with the Torrington Co., and was recently elected chairman of the ASME Textile Div.

Kings Mountain Foundry, Gastonia, N. C., has moved to a larger and more modern plant at 834 N. Marietta St.

E. F. Rose & Co., Maiden, N. C., has cancelled the use of its U. S. Patent No. 2234779 by various roller-covering shops for covering lap sticks. This new policy is to insure uniformity in quality of work. Cedartown Roller Covering Works, Cedartown, Ga., and Smith Roller Covering Shop, Anderson, S. C., will continue to cover lap sticks under the patent. Mills which are authorized to use the patent to cover rolls in their own shops are permitted to continue the practice.

Platt Bros. (Sales) Ltd., Oldham, England, on behalf of Dobson & Barlow, Ltd., has signed a contract with the Polish Purchasing Mission in London acting for Textile Import Bureau, Lodz, Poland, for the supply of Nelson continuous-spinning plant (including a large part of preparation machinery,) to produce 2½ tons per day of continuous-filament rayon yarn. Delivery is to commence almost immediately and value involved is £250,000.

Paisley Products, Inc., New York, has purchased the Park Leggett Altman Co., industrial adhesive manufacturers, Minneapolis, Minn. The purchase included all assets of the firm.

B. S. Roy & Son Co., Worcester, Mass., has opened a new machine and parts warehouse in Charlotte, N. C. B. L. Quick and L. P. Bell, formerly with Textron Southern, Hoskins Plant, have been appointed sales engineers. Charles E. Hendrick, formerly of *The Charlotte News*, is warehouse superintendent.

Dow Chemical Co., Midland, Mich., has appointed Leo B. Grant as manager of its New York sales office succeeding the late Radph E. Dorland.

American Cyanamid Co., New York.—James Irving Allen, who for many years has represented the company in New England for products distributed to the tanning and textile fields, retired Dec. 31. He was associated with the Newbert Color Co. at the time that concern was acquired by A. Klipstein & Co. Klipstein

PRESENTS AWARD TO "SALES PERSONALITY OF THE YEAR"— *"Miss America" (Bebe Shopp) is shown receiving an award as "America's outstanding sales personality" from Orville C. Hognander, chairman of the Upper Midwest Sales Conference, and vice president and sales manager of G. H. Tennant Co., Minneapolis. Witnessing the presentation of the award were 5000 key executives of leading manufacturing, wholesaling, and retailing firms.*

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THREAD GUIDES

FOR THE TEXTILE INDUSTRY

OVER **2000** DESIGNS

A Standard Part

For EVERY TEXTILE Need

Many items carried in stock

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MADE TO YOUR SPECIFICATIONS

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Our vitrified enamel guides are produced by fusing melted glass on metal, and should not be confused with paint, baking enamels or celluloid preparations. They are strictly glass smooth; are immune to moisture, acid, etc., and withstand enormous heat.

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Faster and greater turnover should yield increased profits without credit risks.

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WE LIKE TO KEEP ACTIVE IN MAINE

"The early settlers of this country used real horse-sense when it came to getting work done. Those who didn't do an honest day's work just didn't eat.

"As I have watched things over the years, I have come to the conclusion that there is no substitute for hard work. Those who get the best things out of life are those who work for them and enjoy the work they are doing.

"Take my work in the shoe factory . . . I have worked here for eighteen years and believe me I have really enjoyed every minute of it. Although I do only a small part of the work turned out on each shoe, I take a great deal of pride in the part I do. We all enjoy our work better because we turn out a good finished product.

"One thing that helps in my work is my home life. I own a little farm that keeps me busy nights, mornings and weekends. I also enjoy hunting, have a good bird dog and whenever I get time during hunting season, we're off to the woods. Yes, Maine is a grand state in which to live, work and play."

Maurice Norton

Maurice Norton is typical of thousands of Maine workers who take pride in their work and really get the most out of life. Excellent manpower is only one of the many advantages you'll find when you locate your plant in Maine. These include: easy access to the nation's largest markets; many raw materials close by; pure processing water; year round production weather; excellent transportation; fair taxes, no State sales tax, no State income tax.

If you are planning to move, expand or decentralize, it will pay you to investigate the industrial advantages of Maine. Write for free booklet, "Industrial Maine".

STATE OF MAINE TEXTILE INDUSTRY

MAINE DEVELOPMENT COMMISSION, 794 STATE HOUSE, AUGUSTA, MAINE

NEWS ABOUT *Suppliers*

was subsequently merged with American Cyanamid.

Ernest L. Frankl Associates, New York, reports that the first shipment of worsted machinery manufactured by Officine Meccanica Sant'Andrea Nevara has arrived in this country. These machines and others to follow are to be set up in a modern worsted mill in the South.

Celanese Corp. of America, Newark, N. J., is discontinuing the manufacture of all cellulose-nitrate-plastic products. All future activities of the plastics division are to be concentrated in the fields of cellulose acetate, cellulose propionate, and other new materials now in the development stage.

Edmos Products, Inc., Brooklyn, N. Y.—Milton Moskowitz, president of this company, has gone to Europe to make a survey of knitting operations in several countries where Edmos knitting machines are in demand. He will complete the company's distributional setup and investigate the possibility of manufacturing Edmos machines abroad.

Stein, Hall & Co., Inc., New York, has opened a new sales office in Atlanta, Ga. Manager at Atlanta is E. D. Estes, who has served the same territory from the Stein, Hall, Charlotte, N. C., office. Headquarters are at 364 Nelson St., S.W., Atlanta, and the sales area is Georgia, Alabama, and Florida.

FRANK L. OLDROYD has been appointed by Oakite Products, Inc., New York, as sales manager of its Industrial Div. He has been associated with the Oakite organization in the servicing of its specialized industrial cleaning and allied materials for over 15 years. He was lately special field sales manager.

W. DOUGLAS SMITH has been appointed Southern representative for the Diastafor Dept., Special Products Div., Standard Brands, Inc., New York. He will handle the company's line of Diastafor desizing agents. He has had 18 years' experience in dyeing and finishing and in selling dyestuffs and engineering equipment to textile manufacturers.

E. W. Twitchell, Inc., has removed from Public Ledger Bldg., Philadelphia, to larger and more modern quarters at 2801 N. 3rd St., Philadelphia 33, Pa.

The Takk Corp., Newark, Ohio, has appointed the following firms to represent it in the textile field; John Fensom Co., Richmond, Va.; Mahon & Bone Co., Greensboro, N. C.; Black & Easley, Greenville, S. C.; Wm. P. Russell, Atlanta, Ga.; Fawcett & Co., Toronto, Canada; Richard H. McKee, Buffalo, N. Y.

Remington Rand, Inc., New York, is offering a new sound-color motion picture entitled "It Must Be Somewhere!" It portrays the vital importance of simplified, efficient filing methods in business. It is released by the Systems Div. of Remington Rand. The film is available through any Remington Rand branch office.

Transporter Div. of Automatic Transportation Co., Chicago, has named A. J. Robinson as sales manager. He comes to Automatic from Ruthrauff & Ryan, Inc., Chicago, the advertising agency which handles Automatic's account. R. M. Whitney is now advertising manager of Automatic Transportation Co.

Electric Storage Battery Co., Philadelphia, has appointed Robert L. Sommerville as Ex-

KILLS PLANT MAINTENANCE ENEMIES

LIQUID PORCELAIN-LIKE

DAMP-TEX

Damp-Tex super-enamel can be applied to surfaces despite moisture, heat, fumes and many other extreme conditions. Its water-proof film retards deterioration, increases efficiency, turns depressing, dingy interiors into gleaming, porcelain-smooth beauty. Resistant to fungus, 2% caustic solution, steam and lactic acid. One coat covers. Comes in white and colors. Used in over 4000 plants. Write for our trial offer.

Proved Fungus Resistant by FUNGUS TEST

Proved Lactic Acid Resistant by ACID TEST

STEELCOTE MFG. CO. • ST. LOUIS, MO.

Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada

at NO EXTRA COST

The new quick-opening set-lock assembly on the Kno-Draft Air Diffusers

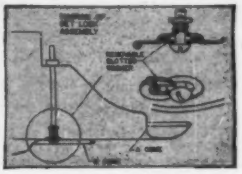
Cuts installation and maintenance time

Instant Cleaning and Inspection: With the new Type HD set-lock assembly, the inner element of the Kno-Draft Adjustable Air Diffusers can be quickly removed and reinstalled while the diffuser is in place without affecting its adjustment.

1. Remove cover cone (if used).

2. Press cone—slip out washers.

3. Remove inner element.



Now standard equipment.

It takes but a minute—requires no tools

The "B" cone or inner element of the diffuser is secured to the combined suspension and adjustment screws by a springloaded catch which is kept in compression by a slotted washer. The holes in "B" cone pass over the bolt heads. Just press up on cone "B" and insert or remove the slotted washers.

FREE HELPFUL LITERATURE

☐ **Bulletin K-21:** Details on Type HD Set-Lock Assembly.

☐ **New handbook on air diffusion:** Shows how to create "custom-made" air patterns and eliminate drafts.

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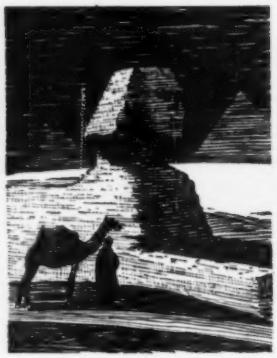

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Time has tested our reputation for workmanship and reliability.

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SINCE 1893

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The Lyons Chronometric Hand Tachometer is designed to provide exceptionally precise measurement of constant rotary and linear speeds.

Produced in two types, 0 to 1000 RPM and 0 to 10000 RPM, graduated in 1/5 RPM and 2 RPM subdivisions respectively, the Lyons has an overspeed allowance of 100%, is durable and entirely trustworthy.

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PORTABLE AND STATIONARY CENTRIFUGAL TACHOMETERS
PORTABLE CHRONOMETRIC AND STROBOSCOPIC TACHOMETERS

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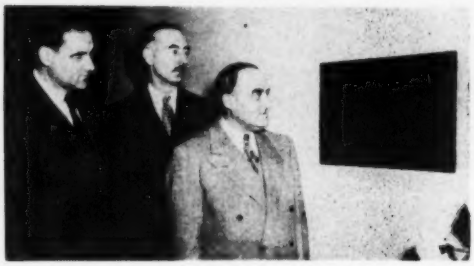
NEWS ABOUT *Suppliers*



***BENEFACTOR OF MEDICAL RESEARCH**—Jacob Ziskind (right), Fall River industrialist and widely known in the textile field, whose $500,000 gift for the construction of new medical research facilities is one of the largest received by the New England Medical Center, Boston, is shown at the recent dedication of the laboratory. With Mr. Ziskind are (left to right) Dr. Freddy Homburger, director of cancer research and cancer control at Tufts College Medical School, and Dr. Leonard Carmichael, president of Tufts College.*

ide's assistant general sales manager. He was previously manager of automotive sales and has been with the company since 1919 when he joined the New York office as salesman. W. V. C. Brandt has been appointed manager of the Railway & Motive Power Sales Div.

Bocon Chemical Corp., New York, is now covered by an insurance policy backing the unconditional guarantee for all fabrics or garments carrying the Boconize button against moth or carpet-beetle larvae damage (for a five-year period) up to $500 regardless of dry-cleanings or soap-and-water washings. The button is made of stainless steel and riveted onto the finished garment indicating, with its identifying mark, the year in which the fabric was processed.

Whiting Corp., Harvey, Ill., has promoted James E. Kearney to manager of its Swenson Evaporator Co. Div., succeeding G. E. Seavoy, who has assumed charge of field sales for all Whiting lines.

Whitman & Barnes, Detroit, Mich., tool manufacturer, has celebrated its 100th anniversary by publishing an illustrated booklet giving the highlights of the firm's history.

Baker-Raulang Co., Cleveland, Ohio, has elected James W. Moran as president to succeed E. J. Bartlett, who becomes president emeritus and continues as a director.

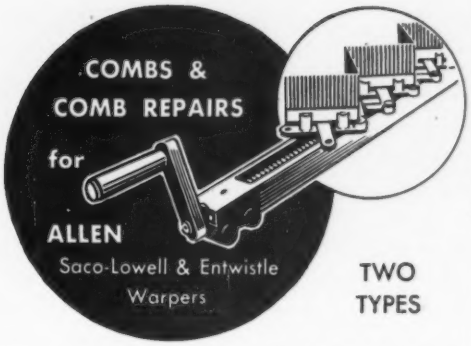
Heyden Chemical Corp. has acquired the property and assets of **Rumford Chemical Works**, Rumford, R. I., on the basis of an exchange of Rumford's stock for Heyden common stock. All manufacturing operations of Rumford's Grocery Products Div. and Chemical Div. will be undertaken by the Rumford Div., Heyden Chemical Corp. Promotion and sales of Rumford grocery products will be handled by the Rumford Co., a former subsidiary, while sales of the products of the Chemical Div. will be undertaken by the Rumford Div. of Heyden. No changes in management or policies are contemplated.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has appointed Hal M. Cranston as comptroller.

Apex Chemical Co., Inc., New York, tendered a dinner to 50 of its key employees recently to celebrate the 90th birthday of its founder and treasurer, Hugo Helburn. Also celebrated was the completion of a new addition to the company's manufacturing facilities at a cost of about $100,000.

New York & New Jersey Lubricant Co., New York, has elected Ivan L. Hall as vice president, Sidney Vollman as treasurer, James F. Donlin as assistant treasurer, and Harry Clemens as a director. All have been with the company 40 years or longer.

John J. Hart Co., Atlanta, Ga., has added K. H. Aldinger to its staff as textile engineer. The Hart firm has moved to new headquarters at 284 Techwood Drive.



The Allen Positive Expansion Comb is expanded by screws at each end and is superior to the tape expansion type. Can be expanded 100%. We supply Slasher Combs for all types of slashers. We also supply Leese Combs.

The Allen Spring Expansion Comb has open box construction, eliminates the collection of lint and dirt, facilitates cleaning. Can be expanded 30% and still maintain uniform spacing.

FOR REPAIRS — Send comb by express and we will immediately repair and return.

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Effective insurance against damage to delicate mechanisms from dirt or scale carried in pipe lines. They protect steam traps, reducing or regulating valves, nozzles, pumps, or burners. They prevent interruptions of production and costly repairs. Furnished in brass, cast iron, semi-steel or cast or stainless steel for all commercial pressures and with screens for steam, air, gas, water, oil, brine, ammonia, or other fluids.

Sarco steam strainers are easily cleaned by blowing through. They are also furnished with rotary scrapers, hand operated or driven by electric power. See Catalog No. 1200 and 1225.

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SARCO SAVES STEAM

SARCO COMPANY, INC.
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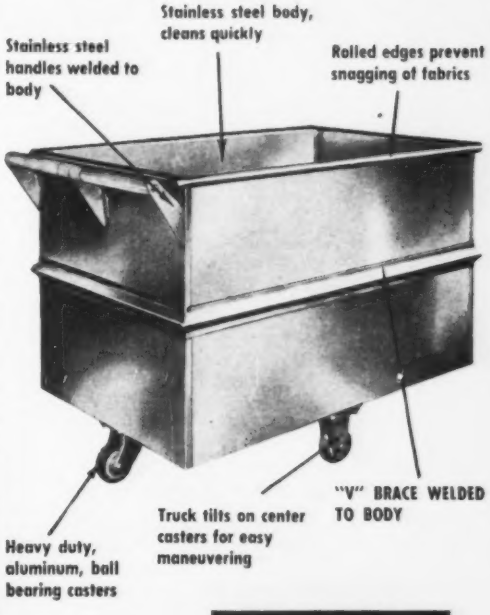
New Stainless Steel

WET GOODS TRUCK

- **EASY TO CLEAN**
- **SNAG FREE**
- **RUGGEDLY BUILT**


Stainless steel body, cleans quickly
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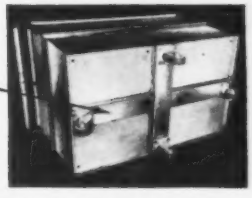
Truck tilts on center casters for easy maneuvering
Heavy duty, aluminum, ball bearing casters



This is the wet goods truck dyers have always wanted . . . built to stand rough handling for years . . . easy to clean . . . snag free . . . a truck designed to cut your handling costs. Standard width 3 feet, depth 30". Standard lengths 3 ft., 4 ft., 5 ft., 6 ft. Also built in sizes to meet your requirements. Send for Bulletin 7032.

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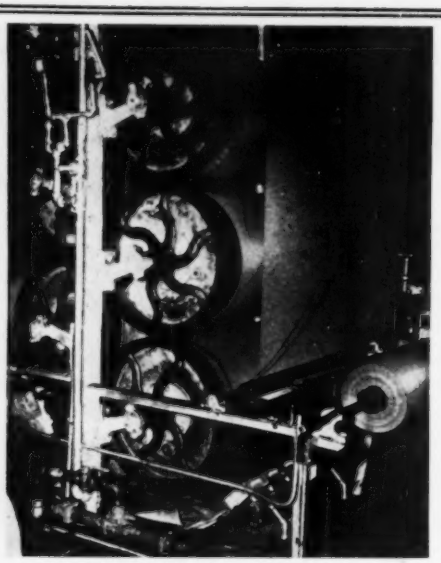

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at Paragon Dyeing & Finishing Co., Paterson, N. J. eliminate can marks—improve quality and increase production.

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Perfect Finish—Long Life

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for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

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KENWOOD MILLS
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NEWS ABOUT *Mills*

Cotton Mill News

American Yarn & Processing Co., Dixon unit, Gastonia, N. C., has rearranged carding department to facilitate flow of material and utilize more efficiently space available. Sixteen speeders were replaced by eight large-package speeders.

Anneewakee Cotton Mills, Inc., Douglasville, Ga., has completed installation of machinery in former Long Milling Co. building. At present there are 100 looms, but additional ones will be installed as they become available. Mill manufactures shirting, herringbone twills, drills, and fancy drapery. M. T. McDearmid is president and general manager.

H & F Binch Co., division of Native Laces & Textiles, Inc., Glens Falls, N. Y., is planning erection of 360x125-ft. building for further expansion. Proposed building would be air-conditioned, windowless, and equipped with sprinkler system. Nearly 150 operatives would be required to man new facilities. Milton Crandall, Glens Falls, is architect; and Wagaman & Collyer, Glens Falls, contractor.

Charm Tred Mill, Monticello, Ark., has construction well under way on $100,000 addition, 80x80 ft. New space will make room for installation of latex-processing plant for latex finishing of safety rugs. Earl Baxter, of Monticello, is contractor.

Chicopee Mfg. Corp., Lumite Div. at Cornelia, Ga., has construction work going forward on addition that will contain 10,000 sq. ft. of floor space. This will be used primarily for storage.

Clifton Mfg. Co., Clifton, S. C., has extensive modernization program under way that includes installation of Saco-Lowell opening equipment, Hunt spreaders and motor drives on looms, Bahnson air-change system in card room, new Lodge & Shipley lathes in machine shop, and new air condensers for pickers at mill No. 1. At mill No. 2, new humidifiers are being installed in carding department. Also, new humidifiers and air-change systems are being added to weave room and are being furnished and installed by American Moistening Co. Bahnson Co. has completed installation of air changers and humidifiers in No. 2 mill spinning room.

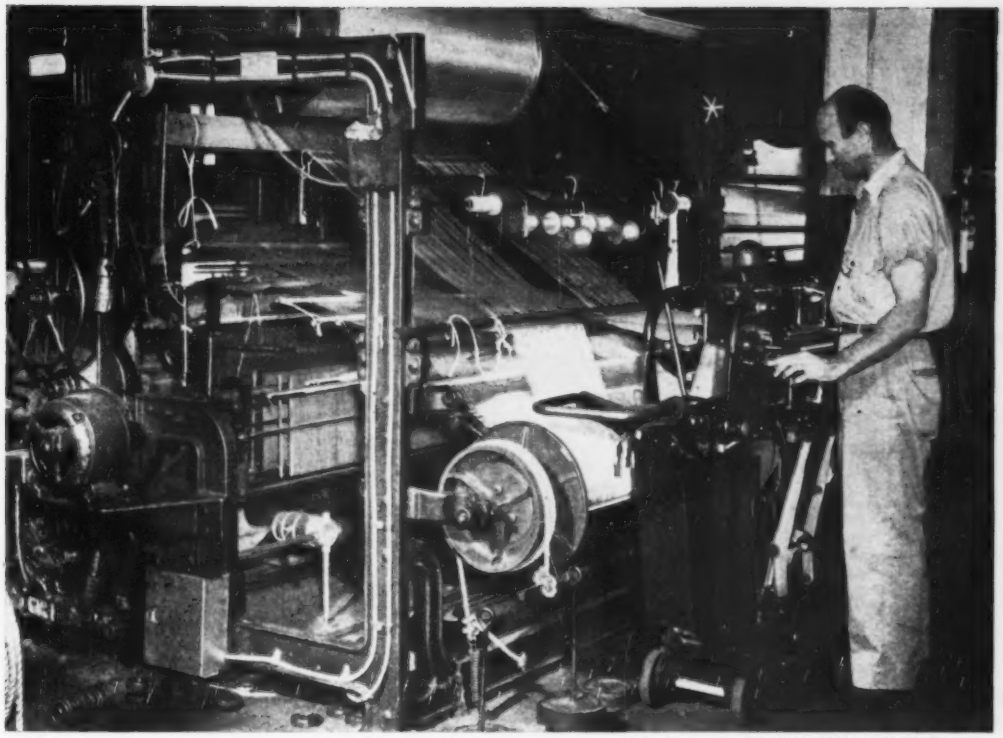
Columbia Weaving Mills, Inc., Paterson, N. J., has abandoned plan of establishing Venetian-blind-tape plant at Anniston, Ala., and will remain in Paterson, N. J.

Dominion Textile Co., Montreal, Que., is planning $1,500,000 extension of facilities at St. Agnes branch. New manufacturing units with capacity of 40,000 lb. of medium-count yarns a week will double present output of plant.

Fieldcrest Mills, Spray, N. C., plans to spend approximately $1,000,000 this year on modernization and improvements at company's eight textile plans in Leaksville, Spray, and Draper, all in North Carolina, and Fieldale, Va.

Glendale Mills, Inc., Glendale, S. C., subsidiary of J. L. Stifel & Sons, Inc., Wheeling, W. Va., has modernization and repair program going forward that includes installation of Saco-Lowell J-3 long-draft frames and J-3 attachments for card room. Abington card-stripping system and waste conveyor will be installed to simplify handling of waste. Along with new Barber-Colman warper, already installed, there will be new 180-spindle automatic spooler. Completely overhauled looms, motor-driven and equipped with latest attachments, have been installed in weave room. American Moistening Co. atomizer system has been installed throughout plant.

Henrietta Mills, Caroleen, N. C., has placed contracts for



PHOTOGRAPH TAKEN AT CHENEY BROS., MANCHESTER, CONN.

BARBER-COLMAN PORTABLE WARP TYING MACHINE SAVES OVER 14 HOURS WARP REPLENISHMENT TIME ON VELVET LOOM

Velvet looms, and other looms operating on similar principles, offer complications to the problem of warp replenishment because two or more warps are involved as well as an elaborate set-up through the harness and drop wires. The Barber-Colman *Portable* Warp Tying Machine has proved its adaptability to work of this type - - not only in doing a highly satisfactory job of tying-in, but doing it with a very substantial saving in time over other methods. The photograph above and the mill data at the right (from Cheney Bros., Manchester, Conn.) illustrate a typical example, showing a saving in down-time on the loom of over 14 hours or nearly two shifts. The Barber-Colman machine works directly in back of the loom, as pictured. The reed, harness, drop wires, and all adjustments are left undisturbed. Barber-Colman *Portable* Warp Tying Machines are available in a variety of types; see your Barber-Colman representative for specific recommendations to fit your needs.

DATA FROM THE MILL

MACHINE METHOD

Model LL Portable Warp Tying Machine
1 Operator — 1 Helper

Pile Warp	*Ground Warp*
Rayon	Rayon
3200 ends	7424 ends
125/50/2½ TT	50/20/25 TT
40" wide warp	40" wide warp
(Tying-in Time 50 min.)	(Tying-in Time 2 hrs.)

14 Harness
4 Banks of Drop Wires (open end)
Total Machine Tying-in Time — 2 hrs. 50 min.

MANUAL METHOD

Total Twisting-in Time — 17 hrs. 30 min.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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Labormeter Burden-meter Waste-meter

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The staff of BTA engineers is serving on a consulting basis in approximately 170 mills. Some mills require very little time while others have a continuous program covering all phases of manufacturing, cost engineering, merchandising, and management responsibility.

In addition to this, they are frequently called in by the mills to make special appraisals. Reports on the condition of the plant or on the methods adopted by management help to verify plans for modernization of manufacturing operations.

This is most interesting work, for no two mills present the same problem. Executives in manufacturing plants are generally well qualified to make decisions, but they can be materially assisted by having Barnes advice on important matters of policy, etc., which may save many times the cost for the service.

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NEWS ABOUT *Mills* (Continued)

$2,336,000 of machinery and equipment to replace worn-out units in plants.

Inman Mills, Inman, S. C., has completely rebuilt all looms in plant; and other machinery and equipment have been improved. Improvements have been made in mill village including sewage-disposal plant at cost of $100,000. Entire program, now completed, cost $1,000,000.

Jamestown Mills, Inc., Jamestown, N. C., has purchased plush-weaving plant and equipment of Statesville Cotton Mills, Inc., Statesville, N. C., from Burlington Mills Corp. Jamestown organization has already begun production in temporary location at Jamestown. T. Ragsdale is president of purchasing company.

Lane Cotton Mills Co., New Orleans, La., will start work immediately on $1,500,000 to $2,000,000 program of modernization and expansion. Mill will be overhauled from basement to roof, and increase from two shifts to three is planned.

Laurens Mills, Laurens, S. C., is constructing five-story addition to mill building on Main St.

Newberry Cotton Mills, Newberry S. C., has completed modernization program of $1,500,000; and company has now switched from manufacture of sheeting to print cloths.

Ottaray Mills, Union, S. C., has started work on $360,000 modernization program. Windows of mill are being bricked up in preparation for installation of air conditioning. Mill has installed 16 modern roving frames and 11 new cards are due for delivery. Additional 81 XD-Model looms are to be installed.

Riverdale Mills, Enorec, S. C., has completed expansion and improvement program that cost around $1,000,000. All looms were rebuilt, and other machinery and equipment improved. Additions to plant have also been made, and mill village has been completely renovated.

Safie Mfg. Co., East Rockingham, N. C., has completed a roof-repair job at cost of $250,000. C. M. Guest & Sons was the general contractor.

Textiles, Inc., Gastonia, N. C., has spent $2,140,000 for additional equipment and renovations of plants since 1946; and plans to spend $1,800,000 for more equipment in future.

Tallassee Mills of Mt. Vernon-Woodberry Mills, Inc., Tallassee, Ala., has approved plans for one-story addition.

Wool Mill News

American Worsted Mills, Inc., Pawtucket, R. I., has been formed by John M. Orisman, formerly of Harrisburg, Pa. He recently purchased equipment of Amtex Spinning Co., Pawtucket, and is now producing worsted yarns.

Astor Worsted Spinning Mills, Sidney, Australia, has obtained English government approval for transfer of a complete Bradford-mill setup from England to Australia.

Chatham Mfg. Co., Elkin, N. C., has acquired Esmond of Virginia plant at Waynesboro, Va., from Textron, Inc. M. A. Simons, present manager, will continue in that capacity at plant.

Korma Textiles, New Zealand, Ltd., Royal Oak, N. Z., has large textile mill nearing completion at Royal Oak, near Auckland, that is expected to be in full production by middle of 1949. Completed plant will contain $2,000,000 worth of British and American machinery of latest design. Over $1,000,000 of this has already been installed and is partly in operation. Complete plant will employ 850 workers. Major effort of plant will be devoted to production of 10,000 lb. of worsted yarn and 2,500 to 3,000 yd. per week of fine worsted materials.

Joseph Smith (Cleckheaton) Ltd., Yorkshire, England, will dismantle its hosiery-yarn-spinning plant and re-establish it as Cleckheaton (Yorkshire) Ltd., in Shepparton, Victoria, Australia.

Stephens Spinners Co., Brewton, Ala., which has been in operation for last six months, has added new dyeing

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U. S. ACME JUMBO DOUBLE DECK TWISTER

MARQUETTE ROLLER BEARING SPINDLES AVAILABLE WITH MACHINES

for accurate, high-speed twisting to the finest of deniers—handles 8-oz. to 16-oz. packages (headless or take-up spool—or both!)

FEATURES: 200 to 256 individually controlled spindles; improved spindle swing unit with constant spindle speed, uniform belt tension and new type circulating oil system; automatic stop motion with headless package assembly; roll shafts mounted on anti-friction bearings; stationary or drop-down balloon separators; diecast fingers and rolls; dowmetal traverse bars; fully machined, steady action cam unit; new and improved back idler unit; only one gear to change for each given twist; automatic belt take-up; built-in secondary motion prevents built-up ends of yarn on spools.

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☐ U. S. Acme Doubler Twister ☐ U. S. Acme Face Drive Twister

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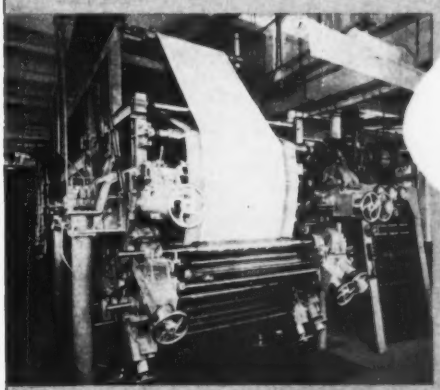

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The new WALDRON "Heliofast" printing operation goes from nip to nip maintaining commercial register at speeds up to 230 yards per minute. With its smaller arc of printing contact, it produces sharper, more clearly defined printed patterns. Write for full particulars.

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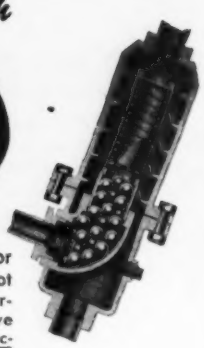

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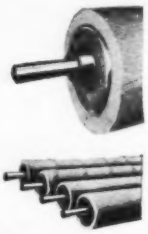

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NEWS ABOUT *Mills*

and bleaching set-up that will be put into operation as soon as new sewer system is completed.

M. T. Stevens & Sons, Franklin, N. H., has started operations at former Gibson Woolen Mills in nearby Tilton, which Stevens purchased last summer. Executives of Franklin mill will supervise production of yarn in Tilton plant for use in Franklin plant.

Textron Inc., New York, N. Y., has arranged to sell all of common stock of Esmond Mills Ltd., Canadian corporation, to interests close to Beacon Mfg. Co., Swannanoa, N. C. Canadian company operates blanket mills in Granby, Quebec, and Perth, Ontario. Stock of Canadian company was acquired by Textron earlier this year in connection with purchase of assets of Esmond Mills, Inc.

Thomas Woolen Mills, Inc., Fabyan, Conn., has recently been organized. George J. Thomas is president; Louis Thomas, treasurer; and Arthur Ziener, vice president. Mill is in full production on worsted gabardines and women's-wear woolens.

Synthetics Mill News

American Viscose Corp., unit at Nitro, W. Va., plans new addition. Award is being made for structural-steel framing and work. Cost is reported over $200,000.

Beaunit Mills, Inc., Childersburg, Ala., is having H. W. Butterworth & Sons Co., Philadelphia, Pa., build 60 rayon-spinning machines for new plant. Each machine will have 128 spinning positions and will be equipped with Butterworth patented traverse-drive system. New Beaunit plant in which these machines will be installed is scheduled to have annual capacity of 10,000,000 lb. of viscose filament.

Industrial Rayon Corp., Cleveland, Ohio, has concluded negotiations for purchase of 1,200-acre plant site on Ohio River at Point Pleasant, W. Va., where new continuous-process plant will ultimately be erected. Company intends to concentrate expansion program on further development of this process, which is now in use at plants at Painesville and Cleveland. New plant will reflect refinement and improvements resulting from ten years of commercial experience with process, plus results of research which is still continuing. Site includes land that was formerly part of West Virginia Ordnance Works.

Frank Ix & Sons of Virginia, Inc., Charlottesville, Va., has changed name to Frank Ix & Sons Corp. and has increased maximum authorized capital stock from 550 shares, without par value, to 690 shares of common, without par value, and $500,000 preferred.

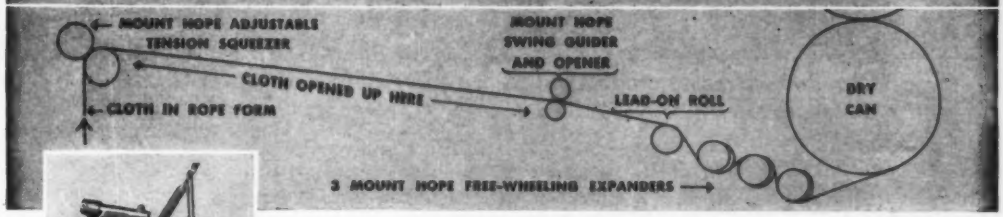
Plaza Mills, New York, N. Y., will establish new rayon plant at Vega Baja, Puerto Rico, which will cost $350,000. Puerto Rico Industrial Development Co. will grant loan of $200,000 to U. S. company under its aid to industry program. Deal will include option to purchase. Plant will employ over 100, and will be operating within ten months. It will occupy site of 30,000 sq. ft. Contract for construction has been awarded to Abraham Rosen, representative of Plaza Mills. Machinery and equipment will be shipped from United States.

William Skinner & Sons, Holyoke, Mass., has let contract to Daniel O'Connell & Sons, Holyoke, for addition to cost about $300,000.

United Rayon Mills, Elberton Div., Elberton, Ga., has begun work on addition with construction work in charge of Fiske Carter Construction Co. Addition calls for 50,000 sq. ft. of floor space and enlarged water supply. This will require clear-water tank of 750,000-gal. capacity.

West Warwick Weavers, Inc., has been formed and has leased space on property of Crompton Co., West Warwick, R. I. Charles S. Fowler is president and treasurer, with S. D. Fowler as secretary. First 24 wide Draper looms will be installed this month, together with necessary preparatory machinery. Specializing in synthetic yarns and blends, company will weave wide, heavy, textured fabrics for apparel and home-furnishings trades. Charles S. Fowler was formerly executive vice president and general manager of Hartford

GETTING MAXIMUM WIDTH on Rayon Marquisettes
As Practiced by a Well Known Finisher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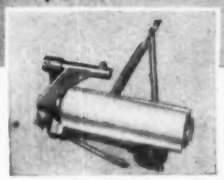
DRY CAN
3 MOUNT HOPE FREE-WHEELING EXPANDERS



GUIDERS

EXPANDERS

WHAT THIS FINISHER SAYS ABOUT:—

SWING GUIDERS AND OPENERS— Saving in labor; handle goods safely, easily adjusted, quiet.

FREE-WHEELING EXPANDERS — Easy to keep clean; give maximum stretch with minimum warp tension; eliminate creases and wrinkles; handle goods safely.

Tell us your cloth opening, guiding, or cross-stretch problem and let us make recommendations free of charge.

MOUNT HOPE MACHINERY COMPANY

42 Adams St., Taunton, Mass.

Representatives—Parkman Collins Company, Boston—for Maine • Ingalls Engineering Company, Providence—for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson—for Southern N. Y., N. J. and Pa. • Slaughter Machinery Company, Charlotte—for the South • S. S. Wilson, 1737 Howard Street, Chicago—for Mid-West • Sidney Springer, Los Angeles—for California • W. J. Westaway, Limited, Hamilton and Montreal—for Canada.

Mount Hope CLOTH HANDLING DEVICES

BUY U.S. SECURITY BONDS NOW!

THE OLDEST AND LARGEST
MANUFACTURERS OF
RING SPINNING AND TWISTER TRAVELERS
IN THE UNITED STATES

National-Etartnep Finish
A New Chemical Process

AMERICAN
- HICKS
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United States Standard Wentworth Double Duty and Gravity Travelers

Makes Stronger Yarn

Double Duty and Gravity Travelers embody a new heat-treating principle, which reduces to the irreducible minimum the frictional contact between the Traveler and the Ring. The life and endurance of the Traveler is not only multiplied by two, and oftentimes to a greater degree, but the life of the spinning Ring is increased in relative proportion to the lessened frictional load.

NATIONAL RING TRAVELER COMPANY

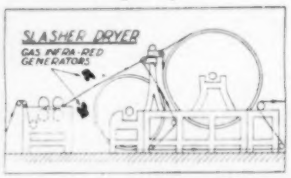
PHILIP C. WENTWORTH, Treas.

PAWTUCKET, R. I., 354 PINE STREET CHARLOTTE, N. C.

New-High Speed-Radiant Hot Air Type Slasher Dryer . . . by Process Heating

• *eliminates cylinders*
• *saves space* • *increases production*
• *produces top quality yarn*

Auxiliary Dryer



For boosting present steam slasher production up to 65%. Improves quality of the yarn and produces a better warp and improves quality of the yarn.

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GAS AND ELECTRIC INFRA-RED UNITS AND OVENS FOR HEATING • DRYING • BAKING • CURING • SINGEING • DEHYDRATING • EVAPORATING

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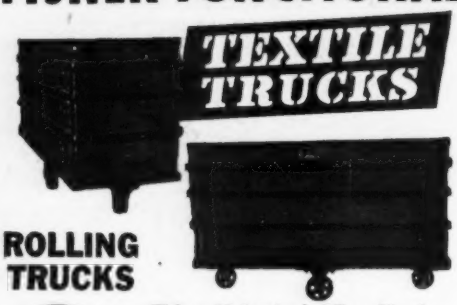
FISHER FUNCTIONAL



ROLLING TRUCKS

Fisher Vulcanized Fibre Trucks feature improved reinforcement where needed, both inside and outside. Thread guard casters and tapered head rivets. Built to avoid damage to trucks or to machinery on contact.

FREE FOR THE ASKING. Your copy of our new illustrated brochure "Fisher Functional Textile Trucks." Write today!

FISHER MANUFACTURING CO.
MATERIALS HANDLING EQUIPMENT, TEXTILE
BOX 244 -- HARTWELL, GEORGIA

NEWS ABOUT *Mills*

Rayon Corp., Rocky Hill, Conn.

Knitting Mill News

Art Glow Hosiery Mill, Paterson, N. J., has completed two-story plant and has installed two new 60-gage 30-section and two new 51-gage 30-section Reading machines.

Artcraft Hosiery Co., Darby, Pa., has changed corporate name to Swanson Hosiery Mills, Inc. Ownership, management, personnel, and physical facilities remain unchanged. Company has recently completed $3,000,000 program in nine mills and now produces over 1,000,000 doz. pr. per year, 80% of which is 51-gage and finer hosiery. In addition, organization will soon receive about $1,500,000 in equipment, most of which will be long-section, high-speed, 60-gage machines.

Atwater Hosiery Mills, Inc., Yanceyville, N. C., newly organized, is now scheduled to begin operations for manufacture of full-fashioned hosiery. Firm has two new 30-section 51-gage machines, with additional machines on order.

Bland Hosiery Mills, Inc., Bland, Va., which has changed name from Bland Silk Hosiery Mills, Inc., has added 54-gage 15-den. hosiery to its lines of 45- and 51-gage nylons.

Boyd Lee Hosiery Mills, Inc., Hickory, N. C., is new name for former Sigmon Hosiery Mills, Inc. Firm has recently installed new Hold-Stitch knitting machines purchased from American Textile Machine Corp.

Cherry Knitting Mills, Philadelphia, Pa., has been formed by Ben and Sidney Cherry, formerly partners in Everlastik Knitting Mills, recently liquidated. New company will produce men's, boy's, and women's bathing suits, sweaters, and knitted shirts.

Dainty Dot Hosiery Co. has been negotiating for construction of $100,000 plant in Franklin, N. H., on site that city has agreed to purchase. Concern would install ten 54-gage full-fashioned hosiery machines.

Duchess Hosiery Co., full-fashioned knitting division of Artcraft Hosiery Co., West Grove, Pa., has been purchased by Alexander Rubin and David G. Goff, of Goff & Rubin, Philadelphia attorneys. Purchase is said to include plant's equipment consisting of six Textile Machine Works 30-section, 51-gage machines. About 30 persons are employed in mill which has been turning out 51-gage, 15-den. nylons.

Gehman Knitting Mill, Bally, Pa., has been leased to Walter J. O. O'Meara Mfg. Co., knit goods concern formerly operated in Shartlesville.

Gotham Hosiery Co., Inc., Philadelphia, Pa., has closed bids for one-story addition to finishing mill. Cost is over $150,000. Savery, Scheetz, & Gilmour, is architect.

Huffman Full-Fashioned Mills, Morganton, N. C., has work on $45,000 addition practically completed. Herman & Sipe Co., Inc., of Conover, N. C., is contractor.

Melrose Hosiery Mills, Inc., High Point, N. C., has installed two 51-gage 30-section machines and 11 or more are to be installed later.

Pilgrim Full Fashion Hosiery Mills, Inc., Valdese, N. C., has begun construction of new plant west of Valdese. New building will be of cinder block, veneered with face brick, 92x70 ft.

Pilot Full Fashion Mills, Inc., Valdese, N. C., will install a number of 60-gage machines. Company already has variety of constructions, with 42-gage equipment on silk, 400-needle circular machines on 15-den. seamless nylons, 20-den. regular seamless hosiery, and 45-, 48-, 51-, and 54-gage machines on full-fashioned nylons.

Southern Knitwear Mills, Inc., and **Sterntex, Inc.,** has leased additional space on third floor of building where it is housed at 219 Graham St., Charlotte, N. C., Knitwear plant manufactures infants' and children's woolen goods, and Sterntex produces cotton knit wear for infants and children.

Spalding Knitting Mills, Griffin, Ga., has completed installation of 88 new Komet circu-

Vision of Loveliness

Beauty . . . men worship it, women sacrifice for it . . . and the dream of all is "Beauty that Lasts". How important then, is the fact that when a woman buys DuraBeau finished hosiery, she is buying soft, smoky-dull, gossamer sheer hosiery with the beauty "sealed-in". It is hosiery that provides added resistance to snags, runs and spots, because it is finished with *DuraBeau*, the "Film of Protection . . . of Lasting Beauty!"

DuraBeau
TEXTILE FINISHES

SCHOLLER BROS., INC.

Mfrs. of Textile Soaps, Softeners, Oils, Finishes • Collins & Westmoreland Sts., Phila. 34, Pa. • St. Catharines, Ont., Can.

SPECIALISTS IN TENSION CONTROL FOR CREELS AND REDRAWS

Thousands of Sipp-Eastwood tensions are in constant use today in rayon and fine cotton, and fine worsted mills.

For example, Sipp-Eastwood creels are so popular because:

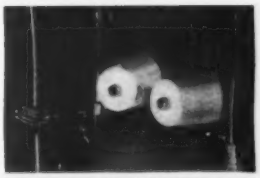
They are made to customers' specific yarn and fabric requirements—and consequently produce the best results.

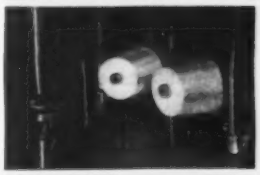
The heart of a creel is the tension. A type of tension that is best for fine denier rayon may not be nearly as effective for heavy denier yarn—and useless for woolen.

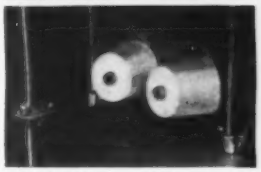
We have three basic tensions—and variations—so that you are sure of best results whatever type and size of yarn you are using.

Moreover these tensions may be changed when you shift from one type of yarn to another.

Get our specifications for the creels to meet your production requirements.







1. F. H. Gate Type Tension
2. D. X. Pulley Type Tension
3. F. W. Washer Type Tension

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SIPP-EASTWOOD CORPORATION

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New England: J. S. Fallow & Co., New Bedford, Mass.
Southern: S. Fred Toll, 2128 Greene St., Charlotte, N. C.
England: Unisel Division, Universal Winding Co., Saville St. and Oxford Rd., Manchester, Eng.
Mexico: B. W. Collins, P. O. Box 2005, Mexico D. F., Mexico
South America: Meyer, Lyra & Co., 227-229 Fulton St., New York, N. Y.

AN AMAZING LUBRICANT

LUBRIPLATE 130-AA

Protects Against Rust and Corrosion

A super grease type lubricant! A marvelous anti-seize compound and a real protector against rust and corrosion. From the standpoint of general utility and diversity of important uses, LUBRIPLATE 130-AA is unequalled. While it is ideal for the heaviest loads, this remarkable lubricant does not cause drag and actually conserves power. Write for a free copy of the LUBRIPLATE Service Hand Book.

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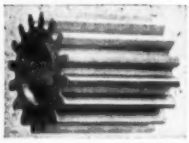
FISKE BROS. REFINING COMPANY
Newark 5, N. J. • Toledo 5, Ohio

DEALERS FROM COAST TO COAST • *See Your Local Classified Telephone Book*

LOOM MOTOR PINIONS

HARDENED STEEL IN STOCK

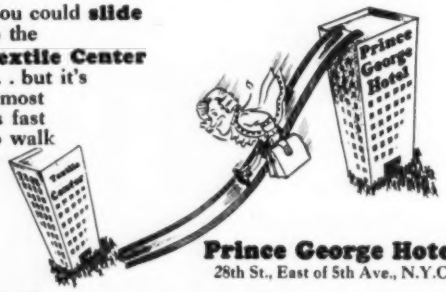


Non-Metallic Gears for Silent Drives

Supplying the trade for over 20 years
Write for price list: Dept. C

LAMINATED SHEET PRODUCTS CORP.
259 A STREET — BOSTON 10, MASS.

You could **slide** to the **Textile Center** . . . but it's almost as fast to walk



Prince George Hotel
28th St., East of 5th Ave., N.Y.C.

New *Showrooms for Attractive Displays.*

NEWS ABOUT *Mills*

lar knitting machines and additional loopers. New knitting room has been established adjacent to a new stock room. Equipment for new dye plant is being installed, and expanded production facilities will soon be in operation. Addition to office building is being air-conditioned.

Utica Knitting Co., Utica, N. Y., suffered extensive loss when two-alarm fire damaged plant recently. Blaze started from spark in card-room hopper and spread through plant to shipping department.

Wilmington Hosiery Mills, Inc., Wilmington, Del., plans to increase number of employees from 300 to almost 500. Company will install 100 new circular machines and auxiliary equipment at a cost of $250,000.

Dyeing & Finishing Plant News

American Finishing Co., Memphis, Tenn., has streamlined process of handling acetic acid in dyeing operations by placing 12,000-gal. aluminum-alloy storage tank outdoors near railroad track for handy unloading. Acid is piped from here through system of aluminum tubing to smaller 50-gal. aluminum tanks inside plant.

Arrow Textile Print Works, Inc., Paterson, N. J., has leased space in local building at 347 E. 22nd St., and will occupy for expansion.

Colonial Mills, Inc., Clarksville, Va., plans to expand dyeing and finishing of spun rayons at finishing division at Clarksville, by construction of 32,000-sq.ft. addition. New space will be used for warehousing, but will release similar area for installation of new dyeing and finishing setup. C. M. Guest & Sons, Anderson, S. C., has construction contract.

Commercial Dyeing Corp., Charlotte, N. C., dyer of slide-fastener tape, will start operations in addition that will be constructed to warehouse of Charlotte Chemical Laboratories, Inc.

Dundee Mills, Griffin, Ga., has completed installation of new open-width bleaching system, which doubles capacity of bleachery. It is fully automatic, with individual variable-speed drives at each stage. Mill is now installing new continuous dye system in recently completed plant addition.

Global Mills, Inc., Lumberton, N. C., has been sold to M. S. Dayan of New York for $400,000. Mr. Dayan made purchase under terms of trust deed by Dickson McLean, local lawyer. Sale of plant and equipment was independent of receivership litigation.

National Dyeing & Finishing Co., Culver City, Cal., has started operations in its new $1,000,000 plant. Production is to be stepped up as property goes into final stages of completion. Company's chief operation is on cotton goods, but plant is also equipped to handle other types of fabrics. It has license for Sanforized process.

Startex Mills, Tucapau, S. C., has put continuous peroxide-bleaching range into operation for bleaching cotton and linen blends. This is an all-stainless-steel, Du Pont system and has capacity of 1,250,000 yd. per week.

Warwick Dyeing & Finishing Co., Inc., West Warwick, R. I., has been formed with Clarence A. Gaudette, president; and Frederick Kenyon, treasurer. After completing installation of machinery, company will do commission work on rayon and nylon piece goods. Mr. Gaudette was formerly superintendent of Kenyon Piece Dye Works, Kenyon, R. I.

Miscellaneous Mill News

Columbian Rope Co., Auburn, N. Y., has purchased control of Edwin H. Fitler Co., Philadelphia, Pa. Both companies will continue to function separately. Edwin R. Metcalf, secretary of Columbian, has been named general manager of Fitler company.

International Ramie Co., Humboldt Bank Bldg., San Francisco, Calif., has plans underway for new spinning and weaving mill on site in San Joaquim Valley district, comprising several buildings. Initial installation will include about 11,600 spindles. Cost reported close to $2,000,000.

Style 20

LANE

The IDEAL BASKET for

LOOPERS

SEAMERS

RIBBERS

GENERAL

W. T. LANE & BROS., INC.

Manufacturers : POUGHKEEPSIE, N. Y.

SIT DOWN- NOW.....

WITH YOUR MAINTENANCE MAN — AND FIND OUT JUST WHAT YOUR UNIT HEATING SYSTEM IS COSTING YOU!

- In down time due to inefficient operation of your unit heating system.
- In higher fuel cost due to heating that portion of your plant not in the working zone.
- In repairs to the units due to leaks, breakdowns or heating failures, caused by corrosion.
- In failure of units due to their not being capable of standing high steam pressure.

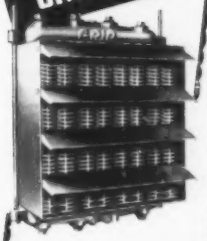
These are just a few of the items of expense you may find—if you are operating unit heaters of other design and construction than GRID. Avoid this needless expense.

INVESTIGATE....

GRID

CAST IRON CONSTRUCTION

UNIT HEATERS



GRID Unit Heaters are designed and made to eliminate maintenance while at the same time saving fuel cost, because they provide heat where it is most needed — to the working zone. They eliminate stratification of warm air at ceiling level . . . GRID Unit Heaters are designed for low outlet temperatures and more air delivery to the floor line—not the ceiling. Don't be confused by unit heaters with great BTU delivery and high outlet temperatures. BTU in a unit heater does not mean everything . . . it's the CFM and low outlet temperature that really count.

GRID heating sections are ONE piece construction high test cast iron—the metal for permanency . . . no electrolysis to cause corrosion, breakdown, leaks, heating failures, because there are no dissimilar metals used in GRID construction . . . no maintenance expense,—but years of trouble-free heating service.

Write for complete catalog, CUH-948-TW, capacity tables and engineering data.

D. J. MURRAY MANUFACTURING CO.

WAUSAU WISCONSIN

LAMBETH PRODUCTS

FOR SPINNING, TWISTING, SPOOLING, WEAVING

Basket weave spinning tape
Weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.

LAMBETH ROPE CORPORATION

NEW BEDFORD, MASS., U. S. A.

YOU TRY IT TEST IT PROVE IT FREE

New TORNADO* Floor Machine

FAST, THOROUGH, EASY-TO-USE—DOES ALL FLOOR MAINTENANCE WORK

A new, scientifically designed all-purpose floor machine which does better work, is correctly balanced for rapid performance, is easily controlled and handled, and is adjustable to operator. Quickly disassembled for storage and transport.

Write today for details of our free trial offer which enables you to try this better floor machine on your own work under your own conditions.

*Trade Mark Reg. U.S. Pat. Off.

FREE TRIAL OFFER

BREUER ELECTRIC MFG. CO.

5132 Ravenswood Avenue • Chicago 40, Illinois

"**SAVES** $600 a year in shipping room," say users of Marsh Stencil Machines, Brushes, Inks! Electric and Hand Operated machines cut ½", ¾", 1" letters. For sample stencil, Shippers' Handbook, prices, pin this to business letterhead with your name.

MARSH STENCIL MACHINE CO.
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THE MONTGOMERY COMPANY
ESTABLISHED 1871

WINDSOR LOCKS, CONN.

BARE ELECTRIC CONDUCTOR & RESISTANCE TINSEL CORDAGE
DECORATIVE TINSEL — LAME — THREADS — CORDS — LAMINETTES
NOVELTY YARNS

NEWS ABOUT Men

Robert T. Stutts, affiliated with Woodside Mills as superintendent of three plants at Fountain Inn, S. C., and Liberty, S. C., for last 12 years, has been appointed president and treasurer of Carolinian Mills, Inc., High Shoals, N. C. Company is subsidiary of Ely & Walker Dry Goods Co., St. Louis, Mo.

J. Harold Lineberger has been elected president of South Fork Mfg. Co., Belmont, N. C., to succeed his father, the late A. C. Lineberger, Sr. **Henry A. Lineberger** was named to board of directors to replace his father.

William Lowndes, Jr., formerly vice president of Southern Weaving Co., Greenville, S. C., has been elected president to succeed the late J. W. Burnett. **J. W. Burnett, Jr.,** is vice president and assistant treasurer, and **E. G. McCoin,** secretary.

William N. Banks, president of four Georgia textile manufacturing companies and chairman of two others, was elected a director of the Trust Co. of Georgia, Atlanta, in December.

W. Stanley Hill, formerly superintendent of American Woolen Co., Norwich, Conn., and more recently president of Hill Woolen Co., has formed W. S. Hill Associates, of Norwich, Conn., textile consultants.

John Hoye, head of Hoye Textile Corp., New York, N. Y., has been elected a fellow of Textile Institute, of England. He has lived in the United States since 1922 and is the author of numerous textile articles and a book, "Staple Cotton Fabrics."

Harry Horrocks, American Thread Co., has been reelected president of the Durene Association of America, New York; **Everett Jordan,** Sellers Mfg. Co., Inc., vice president; **Joseph P. Holt,** Aberfoyle Mfg. Co., treasurer. **A. C. Layton Newsom** was reappointed executive secretary.

JOHN S. LAWRENCE, treasurer of Native Laces & Textiles, Inc., New York, has been elected to the additional office, newly created, of executive vice president. He has been with the company for the last 23 years, having started as one of three in its employ. The company with its six affiliated mills now employs 1,500. Mr. Lawrence became treasurer in 1935, and is now 39 years old. He holds executive offices in all of the affiliated companies. Edgar K. Moses, director of sales, has been elected to the office of vice president in charge of sales.

Francis H. May, Jr., and **Jesse H. Plummer** have been elected vice presidents and **Raymond S. Mensing** secretary-treasurer of Glass Fibers, Inc., Waterville, Ohio.

Cornelius A. Callahan has been named vice president in charge of manufacturing for Goodall-Sanford, Inc., Sanford, Me. He resigned Nov. 1, as vice president and general manager of Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass. He joined Hayward-Schuster in 1933 as superintendent of Millbury Woolen Co. In 1935, he was placed in charge of East Douglas Plant. Later he was appointed head of H. T. Hayward Co., Franklin, Mass., and in 1938 became general manager in charge of four mills.

Alexander F. Hobbs has retired as director of New York Mills Div. of A. D. Juilliard & Co., following more than 30 years of association with that

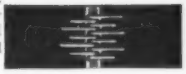
10 TIMES FASTER THAN STITCHING!

SPINDLE TAPE LACING EQUIPMENT

Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

ANNOUNCING

A *New Harness Parts Stop Motion* that can be applied to any loom equipped with Gem Heads such as the W1, W2, W3, All C & K Rebuilt and all type Draper Looms.

Prevents smashes, long pickouts, harness downs and shuttle skips. If any breaks occur on any harness motion parts such as harness straps, jack eyes, jacks, bow wires, etc., the loom will stop within 2 to 6 picks. Will improve quality of cloth and thereby reduce materially the time used for cloth inspection.

Can be attached to any loom within ten minutes. A simple device with no moving parts that could get out of order or require frequent adjustment.

These attachments have been in operation for over two years and have proven completely satisfactory.

Will easily pay for itself within a three month period. Price is such that you cannot afford to be without this attachment.

Manufactured by the

STOP—LOOP—MATIC, INC.
PROVIDENCE, RHODE ISLAND

Sample orders of 12 or more accepted for a thirty day trial period.

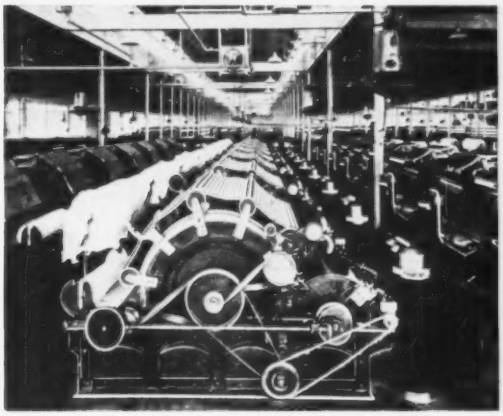
H. E. LINDERSON, INC.
35 WESTMINSTER STREET
PROVIDENCE, RHODE ISLAND

Exclusive New England Sales Agent For

STOP—LOOP—MATIC
Harness Stop Motions

P. O. Box 505 **Tel. Jackson 7075**

It's in the Cards... to stay—when you use NON-FLUID OIL



Ordinary lubricants just won't stay in comb boxes. NON-FLUID OIL protects card adjustments because it does not leak or waste; prevents boxes from heating and minimizes wear on cams.

When NON-FLUID OIL is used in comb-boxes of cards the oiling period can be stretched as much as six to eight times over liquid oil. This saves tremendously on oil and application costs; and in addition puts a stop to oil-soaked card clothing and floors.

Write for instructive bulletin on card lubrication and free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT CO.

292 MADISON AVENUE, NEW YORK 17, N. Y.

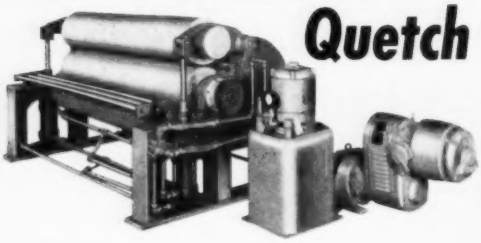
Southern District Manager
FALLS L. THOMASON, Charlotte, N. C.

WORKS: Newark, N. J.

WAREHOUSES: Charlotte, N. C. • Greenville, S. C. Atlanta, Ga. • Providence, R. I. • Detroit, Mich. Chicago, Ill. • St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called fluid grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

PARKINSON'S Quetch



Speeds Up To 150 Yards Per Minute!

The Parkinson Quetch can be furnished with pneumatic or hydraulic controls to facilitate accurate roll pressures up to five tons.

This unit features stainless steel immersion tanks and tension rails, a fabricated steel frame with spherical roller bearings supporting the 12" diameter rubber covered rolls. Can be equipped with let-off and batcher drive. Rolls can be dismantled easily for resurfacing.

Complete specifications and prices on request.

EDWARD PARKINSON Mfg. Co. Inc.

387 CHARLES STREET, PROVIDENCE 4, RHODE ISLAND

Trucks

Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.
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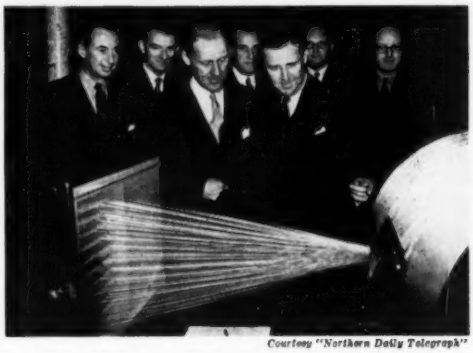
NEWS ABOUT *Men*



Courtesy "Northern Daily Telegraph"

J. SPENCER LOVE, chairman of the board of Burlington Mills Corp., Greensboro, N. C. (at left) is shown at the plant of Muschamp Taylor, Ltd., Manchester, Eng., inspecting that company's Model V3 high-speed warping machine. Slightly behind Mr. Love toward the right is Sir John Greenwood, chairman of Barlow Bros. & Greenwood, and next to the right in the foreground is Allan Greenwood, director of that company.

company. He has also resigned as director, president, and treasurer of Oneida Bleachery, Inc., New York Mills, N. Y.

Glenn D. Jackson, Jr., formerly with U. S. Finishing Co., where he has been at its Sterling, Conn., Silver Spring and Pawtucket, R. I., plants in rayon-fabric development, sales, management, and engineering positions, has joined sales organization of North Carolina Finishing Co., Salisbury, N. C.

George R. Gomperts has been appointed to newly created post of executive vice president of Flexnit Co., Inc., Elizabeth, N. J.

William Greeley and **Roderick T. Clarke** have been elected to board of directors of F. C. Huyck & Sons, Rensselaer, N. Y.

N. G. Hardie, general manager of Laurens Mills, Laurens, S. C., has been elected assistant treasurer, in addition to present duties.

Frank C. Hewitt has been appointed general manager of Windsor Print Works, North Adams, Mass., to succeed **Albert W. Craig**, who resigned last June.

John K. Lee has resigned as vice president in charge of Esquire Socks Div. of Chester H. Roth Co., Inc., effective Jan. 1.

Frederick L. Bissinger, secretary of Industrial Rayon Corp. since 1945, and head of its patent department since 1942, has been named vice president in charge of research. He will continue to serve as secretary until successor is named.

Edwin F. McKenzie has been elected secretary and treasurer of Williamson Hosiery Mills, Inc., Athens, Tenn., succeeding **Joseph H. Brannon**, resigned.

Wilbur Norseen has been appointed manager of new tricot department of Kanmak Textiles, Inc., Kulpmont, Pa.

Sumner J. Robinson has been named general sales manager of Bigelow-Sanford Carpet Co., Thompsonville, Conn., effective Jan. 1.

Raymond L. Sells has been named assistant treasurer of Wiscassett Mills Co., Albemarle, N. C.; and **W. A. Lyon** has been named assistant secretary.

W. C. Summersby has been elected vice president in charge of gray division; **H. R. Matthewson**, vice president in charge of finishing division; and **E. L. Scruggs**, vice president in charge of engineering at Springs Cotton Mills, Lancaster, S. C.

Bernard M. Lewy, who was associated with Industrial

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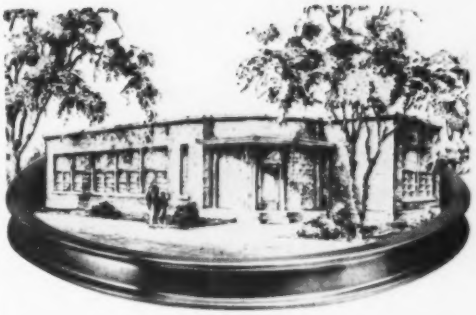

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SPECIAL REPORTS
COST REDUCTION SURVEYS

NEWS ABOUT *Men*

Rayon Corp. for eight years prior to his resignation as advertising manager in 1946, has been appointed assistant sales manager of the company's cloth division, with offices in New York. For the last 2½ years, he operated his own advertising agency in Cleveland.

Walter E. Hildick has been appointed assistant agent of Arlington Div. of William Whitman Co., Lawrence, Mass. He joined Kendall Co. in 1929 and Atlantic Rayon Corp. in 1940. He has lately been with Textron, Inc.

Van Andrews has been appointed to take charge of the newly opened Los Angeles, Calif., office of Riegel Textile Corp., New York.

Arthur T. Branigan has been appointed agent of Kerr Mills, Fall River, Mass. He has been with company for many years, for last two of which he has been assistant agent. He succeeds **W. W. McLeod**, who has resigned to go with Chicopee Mfg. Corp., as vice president in charge of manufacturing.

Walter Dannenbaum has been elected director, vice president, and member of executive committee of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Grover C. Furr and **J. Kelly** have been appointed co-division managers of hosiery division of Burlington Mills Corp., former May-McEwen-Kaiser division. Mr. Furr has added responsibility for operation of Dothan Hosiery Co., Dothan, Ala., and Grabur Throwing Plant, Graham, N. C. Mr. Kelly has responsibility for operation of hosiery finishing plant in Greensboro, N. C., and continues in charge of Sidney, May, and McEwen knitting plants and May finishing plant.

William H. Glaflin, Jr., has been elected to board of directors of Pacific Mills, Boston, Mass. He fills vacancy caused by retirement of **Charles G. Bancroft**, who has served in that capacity for several years.

James T. Porter, vice president of Piedmont Cotton Mills, Egan, Ga., has taken over additional duties as treasurer of company. **Mrs. Catherine T. Tift** continues as secretary.

M. O. Lee, Monroeville, Ala., has been appointed vice president in charge of manufacturing of Vanity Fair Mills, Monroeville and Reading, Pa. Mr. Lee formerly was manager of mills' Southern division.

Claude H. McFatridge, vice president of Baker-Cammack Hosiery Mills, Burlington, N. C., with which he has been connected since 1930, has resigned to return to his home in Roxton, Texas.

Samuel L. Rambo, senior salesman in the Columbia & Minerva Hand-Knitting Yarn Div., of James Lees & Sons Co., retired on Jan. 1 after 35 years with the Lees organization. Succeeding him at the Philadelphia office will be **Burk G. Allerton**, transferred from New York. Mr. Allerton will be succeeded by **Harvey Waldman**, who is transferred from Memphis. Mr. Waldman's territory will be taken by **August Jandorek**, who has been with Lees in New York.

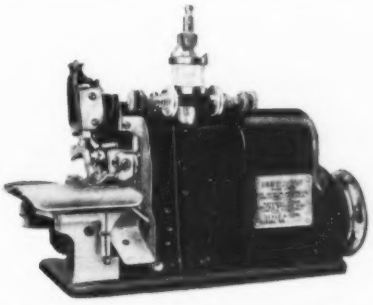
O. Reid Le Clair has been named assistant to C. A. Callahar, vice president of Goodall-Sanford, Inc., Sanford, Me. At same organiation, **E. N. Chamberlain** has been appointed controller.

Harold B. Grange, superintendent of Arnold Print Works, Adams, Mass., has resigned to become assistant resident manager of branch of U.S. Finishing Co. at Norwich, Conn. He has been superintendent of Arnold plant since May, 1947.

James H. Johnson, Longmeadow, Mass., who has been associated with Bigelow-Sanford Carpet Co., Inc., Amsterdam, N. Y., and Thompsonville, Conn., has resigned as chief equipment-design engineer to accept position as manufacturing engineer-manager for Roxbury Carpet Co., Saxonville, Mass.

R. L. Reid, formerly associated with Harden Mfg. Co., Harden, N. C., has become secretary of new Spartex Corp., Charlotte, N. C.

Chris Pappas, Jr., 25-year-old Navy veteran of Charlotte, N. C., has been awarded the



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Duplicable readings are insured by microswitching arrangement which lights meter dial when correct pressure for test is applied. Calibrations for scoured and combed wool, wool yarns and wool blankets are available with instruments.

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Write to day for complete details. Specify type of material to be tested. Moisture Register Company, Dept. G, 133 North Garfield, Alhambra, California.

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WOOL SILK COTTON

WATSON-WILLIAMS MFG. CO. Millbury, Mass.

NEWS ABOUT *Men*

newly-established Owens-Corning Fiberglas Corp. scholarship at the School of Textiles of North Carolina State College.

Donald H. Kinsman has been transferred from New York to the recently enlarged Los Angeles office of William Whitman Co., Inc. He has been with the company for 11 years.

Gerald L. Laliberte has resigned as cost accountant at Textron, Inc., Nashua, N. H., to become associated with the Arlington Mills Div. of William Whitman Co., in Lawrence, Mass. He will continue to make his home in Nashua.

Charles L. Tidwell, former superintendent of throwing room, has been named general superintendent of Duncan Mills, Greenville, S. C., division of J. P. Stevens & Co., to succeed the late Joseph C. McCall.

Walter H. Wood, for last 17 years general overseer of finishing at Arlington Div. of William Whitman Co., Inc., at Lawrence, Mass., has resigned to become superintendent of finishing at new Deering, Milliken & Co. plant under construction at Pendleton, S. C. Mr. Wood will be with Union, S. C., plant of company until work is completed at Pendleton.

Wiley A. Reeves has become overseer of carding at Crystal Springs Bleachery, Chickamauga, Ga. He was formerly connected with Callaway Mills.

A. W. Ricks, member of supervisory staff of California Cotton Mills Co., Uniontown, Ala., has resigned to accept position in Monterey, Mexico.

B. F. Underwood, who has been superintendent of Woodside Mills, Easley, S. C., formerly Easley Mills, has resigned because of his health.

Norman H. Jenkins has accepted position of superintendent of Fork Shoals Div. of Reigel Textile Corp., Fork Shoals, S. C.

Harry W. Kimmell has become superintendent of Pauline unit of Neisler Mills, Inc., Kings Mountain, N. C., succeeding the late Frank C. Roberts.

Harold Blackledge has been appointed chief dyer at Bristol Mills, unit of American Thread Co. at Bristol, Tenn. He previously was foreman of dye house of Kerr Mills, also unit of American Thread Co., at Fall River, Mass. He has been with American Thread for last 15 years.

Lewis A. Crawford has become assistant superintendent of Joanna Textile Mills, Clinton, S. C.

William W. Cruikshank is now weaving overseer at Paris Woolen Mills, Stayton, Ore. He was previously with American Woolen Co., at Oldtown, Me., and Lawrence Woolen Co., Lawrence, Mass.

OBITUARY

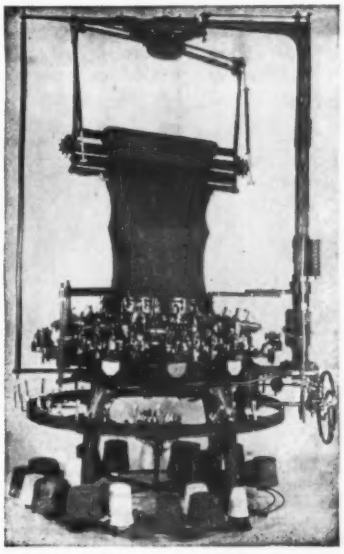
Isaac I. Bruck, 63, president and founder of Bruck Mills Ltd., Cowansville, Que., died suddenly on Dec. 8 in New York. Mr. Bruck was associated with textile firms in New York for some years prior to founding his own business at Cowansville in 1921. Head office of his firm is in Montreal, with various branches throughout Canada, United States, England, and Australia. He was born in Poland and came to the United States in his youth.

Charles C. Harding, 59, president and owner of Piedmont Throwing Mill, Dobson, N. C., died Nov. 12, from injuries suffered in an automobile accident. He was president of Piedmont Silk Mills, Inc., Greensboro, and was former president of Dixie Throwing Co. and former secretary-treasurer of Sedgefield Mills, Inc.

Willis Gerald McCullough, 59, Stamford, Conn., president of Collins & Aikman Corp., New York, died Dec. 17.

Fred Wilson, president of Ontario Textiles Ltd., Toronto, died recently.

Thomas M. Fitzpatrick, 66, president of Brown Durrell Co., Boston, Mass., died Dec. 1. Mr. Fitzpatrick joined the



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For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

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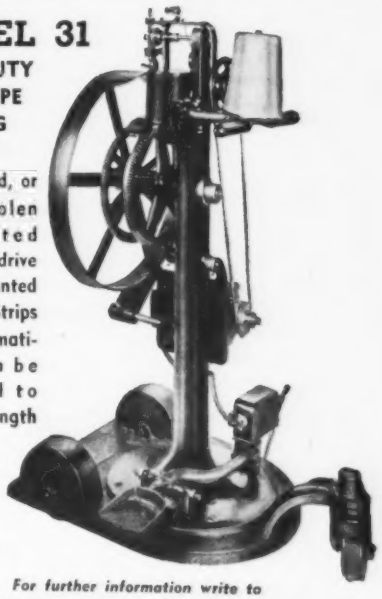
MODEL 31
HEAVY DUTY GEAR TYPE SEWING HEAD



for piece-end, or tacking woolen and worsted cloth. Motordrive —motor mounted on column, Strips cloth automatically. Can be equipped to make any length of stitch from 3/8" long down to 7 stitches per inch.

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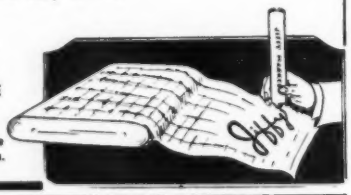

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NEWS ABOUT *Men*

(Concluded)

firm, of which his father was a founder, in 1903.

S. Marshall Beattie, 62, vice president of J. P. Stevens & Co., Inc., died Dec. 15, at Greenville, S. C. He was at one time president of Woodside Cotton Mills Co. and of Easley Cotton Mills. Mr. Beattie served as president of the South Carolina Cotton Manufacturers Association for several terms and was active in the American Cotton Manufacturers Association and the Cotton-Textile Institute. He began his career with Piedmont Mfg. Co. and in 1923 succeeded his father as president and treasurer.

Albert R. Pierce, 79, a New Bedford textile industrialist, retired superintendent and agent of Pierce Mfg. Co., New Bedford, Mass., died Dec. 9. He was originator and designer of cotton airplane wing fabric which replaced the earlier linen material in the first world war.

Richard E. Reeves, 37, died as a result of a plane crash on Dec. 12. He was head of Reeves Plastic Co., Whippany, N. J., and a director of Reeves Bros., Inc., New York. He was at one time with Southeastern Cottons, Inc.

Everett M. Cushman, 72, long identified with cotton manufacturing, died at China Grove, N. C., Nov. 24. He was at one time associated with the Dartmouth Mfg. Co., New Bedford, Mass., also a mill in Natick, R. I., Manomet Mill, Holmes Mfg. Co., Fairhaven Mills, China Grove Cotton Mills, Judson Mill, and Cartex Mills, returning again to China Grove Cotton Mills.

John H. Straussberger, 41, president of Textile Consultant & Service Co., Chattanooga, Tenn., and former southern representative for Alfred Hofmann, Inc., died Nov. 13.

Horace C. Fifield, 80, Adams, Mass., cotton manufacturing executive, died Dec. 1. Mr. Fifield was for many years superintendent of carding at Berkshire Fine Spinning Associates, Inc., and was later transferred to the executive staff in the main office. He began with Renfrew Mfg. Co., of which his father was superintendent for many years.

John Howard Draper, 65, senior member of Draper Bros. Co., Canton, Mass., died at West Palm Beach, Fla., Dec. 17.

Frank H. Naylor, 71, vice president and manager of Jordan Mills, Inc., Columbus, Ga., died recently.

Alexander A. Rankeilor, 84, textile-machine designer and inventor, and former superintendent of the plant of Saco-Lowell Shops, at Biddeford, Me., died Nov. 25 at Saco, Me. Although retired from the superintendency, he had continued as consulting engineer. He came to the United States from Scotland in 1888. During the next decade he was employed by the Pond Machine Tool Co., Plainfield, N. J.; Pease Machine Tool Co., Worcester, Mass.; and Pettee Machine Works, Newton Upper Falls, Mass.

George N. Durfee, 81, cotton broker of New Bedford, Mass., died Nov. 29, at the Bourne Mills, Fall River, Mass.

George L. Sawyer, 67, who retired in 1933 after five years as secretary of the National Association of Finishers of Textile Fabrics, New York, died Dec. 2, at Summit, N. J.

Joseph P. Boland, 62, secretary and a director of Roanoke Mills, Inc., Roanoke, Va., and general manager of Athena Sales Co., died Dec. 12. He was for 20 years with Marshall Field's textile mills before joining Athena in 1938.

Harry Newton Conduff, secretary, treasurer, and personnel director of the Charlottesville Woolen Mills, Charlottesville, Va., died Dec. 12.

Frederick J. Barnes, 85, vice president and treasurer of the New York & New Jersey Lubricant Co., New York, died Nov. 21. He had been with the company since 1906.

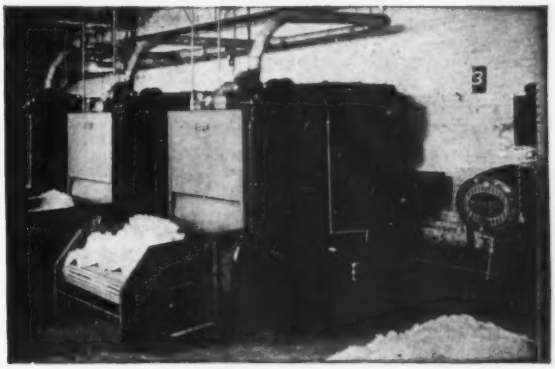
William P. Sullivan, 62, Newton, Mass., textile manufacturer, died Dec. 15. In 1924, he assumed control of R. T. Sullivan Co. founded by his father in 1870.

Frank D. Jacoway, 63, salesman for New York & New Jersey Lubricant Co. in Atlanta, Ga., area, died Dec. 9.

Herbert Lindsay, 65, assistant secretary of Victor-Monaghan Co., Greenville, S. C., died Dec. 23.

Gibson H. Kennedy, 65, chief engineer for Sonoco Products Co., Hartsville, S. C., died recently.

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



● **MINEROL** is a prepared agent for conditioning textile fibres..a systematic Process of Spraying Natural and Dyed Raw Stock. • **MINEROL** helps to separate long fibres from the short. It saves *good fibres* and prevents waste. It makes fibres more supple..more pliable.• **MINEROL** provides *control* of conditions caused by static electricity. It protects the cards and preserves the wire. • **MINEROL** prevents Dust and Fly..safeguarding health and insuring better working conditions.• **MINEROL**..as a conditioner is more urgently in demand thru the increased use of staple Cut Rayon and its varied combinations with cotton, wool and other fibres.

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SOUTHERN OFFICES: ATLANTA, GA. • • • • SPARTANBURG, S. C.

John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures.

Understand protects yarns like standard starches yet desizes completely in soap and water.

Jim

MEN WANTED

POSITIONS OPEN

We can place: MANAGER jacquard rayon cloth mill; manager roller printing plant; manager southern filament rayon cloth mill; superintendent tricot knit plant, southern states, salary $7500-$10,000 yr.; worsted and woolen cloth mill superintendents; knit goods engineer with technical education and wide experience in hosiery, underwear or outerwear manufacturing; textile mill engineers with and without textile school education; superintendent-mechanic cutting and sewing plant; assistant plant manager rayon fabric mill; superintendent cotton yarn mill (Canada); superintendent cotton batting garnett plant.

OVERSEERS FOR FOLLOWING DEPTS: worsted piece dyeing, Union colors, sewing and burling, woolens and worsteds; sewing room (knit goods); cotton pile fabric dyeing and finishing; cotton spinning, spooling, warping and winding (Canada); spinning, spun rayon, 3rd shift (New England); stitching and sewing combined; sheet and pillow case; piece goods examiner and sponger, woolens and worsteds.

SECOND HANDS FOR FOLLOWING DEPTS: wet and dry finishing; woolen and cotton carding; rayon weaving, $80.

CHEMISTS and chemical engineers, also textile school graduates; time study men; salesmen for machinery, chemicals, supplies, etc. for New England and South; salesman woven felts, New England territory.

FIXER-OVERSEER Dubied and circular machines; operator Eastman cutting machines, knit goods; erectors for cotton preparatory machinery for foreign service; fixer C. & K. jacquard looms; Wilton jacquard carpet loom fixer; hosiery machine fixers; woolen dresser tender; loom fixers for So. America.

SUPERINTENDENT worsted yarn mill, Bradford system; superintendent second shift, also production manager pressed felt mill; superintendent cotton yarn mill (South).

OVERSEERS FOLLOWING DEPTS: Woolen carding, $75-$125 wk.; cutting polo shirts and novelty knit goods, $75-$125 wk.; rayon-cotton piece dyeing; weaving, Draper XD looms; worsted combing, also pin setter; burling, mending and final examining, worsteds, $100 week or more; finishing and dyeing jersey knitted cloth; worsted weaving, sewing, spooling and winding combined; night garnetting.

SECOND HANDS worsted yarn, scouring, carding, French Drawing, ring and mule spinning, cone winding, doubling and twisting.

COST ACCOUNTANTS; time study men, Brinton mechanic.

We invite correspondence (confidential) with executives seeking new positions and with employers seeking new personnel.

CHARLES P. RAYMOND SERVICE
Incorporated
Over 50 Years in Business
294 Washington St., Boston 8, Mass.
Telephones: Liberty 2-6547—2-6548

EXPERIENCED MAN

to take control of a plant of Arnold rubber covering machines operating in Australia. Excellent working conditions in newly constructed factory and complete charge of staff. Fares paid to Australia and accommodation guaranteed. Contract of employment for at least three years duration, and Company will give generous conditions. Reply stating marital status, salary required etc. to **P 7828** Textile World, 68 Post St., San Francisco 4, Calif., and a personal interview will be arranged with a visiting Director of the Australian Company. Confidential.

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT : "OPPORTUNITIES" : EQUIPMENT
BUSINESS : : (Used or Resale)

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90 cents per line, minimum 4 lines. To figure advance payment count 5 average words as a line.
Positions Wanted (full or part time salaried employment only, ½ the above rates payable in advance.
Box Numbers—Care of publication New York, Chicago or San Francisco offices count as one line.
Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Individual Spaces with border rules for prominent display of advertisements.
The advertising rate is $8.00 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.
An advertising inch is measured ⅞" vertically on one column, 3 columns—30 inches—to a page.
T.W.

NEW ADVERTISEMENTS received by February 11th will appear in the March issue subject to limitations of space available.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED: TEXTILE Technologist with prior experience in textile plant laboratory and finishing department to execute phases of research in finishing textile fabrics. Experience in cotton textiles preferred but wool or synthetic experience will be considered. Prefer younger man with creative imagination and ability to carry out newer ideas and techniques. Contacts with industrial, technical and scientific groups afforded. Opportunity to develop along technical and managerial lines. College chemistry or textile school background desired. Position in Philadelphia area. Statement as to salary expected and to prior training and experience to be furnished. Enclose snapshot or passport photograph. Write P-7220, Textile World.

WANTED BY manufacturing concern in N. Y. Metropolitan area: Chemist with A.B. or M.S. for research and development of products for textile processing and finishing. Work is mainly laboratory with some field service. Thorough knowledge of textile processes, preferably gained by mill experience required. State age, education and qualifications. Reply P-7391, Textile World.

TEXTILE ENGINEER under 35 to represent national association in technical service with cotton textile mills. Practical experience, pleasing personality and aptitude for writing are essential qualifications. Position offers opportunity to develop wide knowledge of textile field. Location: Washington, D. C. Please include full details of education, experience, age, expected salary and a recent photograph in first letter. P-7803, Textile World.

GOOD POSITION open for experienced Worsted Jersey Cloth Finisher and Dyer—take complete charge of department. All replies will be held in strict confidence. P-7718, Textile World.

WANTED SECOND hands carding and spinning mule fixers, and card fixers. P-7583, Textile World.

SELLING OPPORTUNITY OFFERED

REPRESENTATION IN textile field desired by one of the largest and best equipped Pittsburgh fabricating plants, to sell the stainless and alloy requirements of the textile industry. Excellent opportunity for extraordinary income made even better by new steel basing point ruling. Write giving details of sales experience, line you now carry and present territory. The Converto Company, Box 4037, Pittsburgh 1, Pa.

POSITIONS WANTED

JAQUARD HARNESS Builder with considerable experience seeks steady job preferably with mill. PW-7321, Textile World.

MAKE YOUR own rubber thread at an appreciable saving. Chemist-superintendent extruded latex thread production desires change. Interested in setting up and operating rubber thread production unit. Age 34, aggressive, capable, energetic. PW-7731, Textile World.

(Continued on page 343)

WANTED

RUBBER COVERING FOREMAN

to take full charge of modern plant now operating in foreign country. Will consider either married or unmarried man but preferably the latter. Employer will be available for interviews in the United States the latter part of January. Address in confidence

CHARLES P. RAYMOND SERVICE
294 Washington St. Boston, Mass.

AGENT Wanted

For import to USA of a special stiff pulp-yarn, needed in the manufacture of carpets, cables, ribbons, elastic bands, braces, lady's hats &c.

AEROFIBER EXPORT AG.
45 Nuschelerstr Zurich 1, (Switzerland)

FINISHER WANTED

Nationally known textile organization in south wants a qualified finisher who has had experience on flat goods and underwear crepe. Man should have very sound synthetic fabric background. Please write giving full particulars on experience, background, and some indication of salary desired.

P-7509, Textile World
330 West 42nd Street, New York 18, New York

SALESMAN WANTED

Chemical Company wants a Top-Notch Salesman with thorough knowledge of the Weaving and Throwing of Rayon and Acetate and Silk Fabrics. To solicit business on Sizing and Throwing Compounds. Preferably man with Chemical Background. Will offer interest in Business to right party.

S.W.-7556, Textile World,
330 West 42nd Street, New York 18, N. Y.

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LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys

Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.

Suite 448, 815-15th St., N. W., Washington 5, D. C.

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SEARCHLIGHT SECTION

FEBRUARY, 1949

CATALOG

used and surplus new

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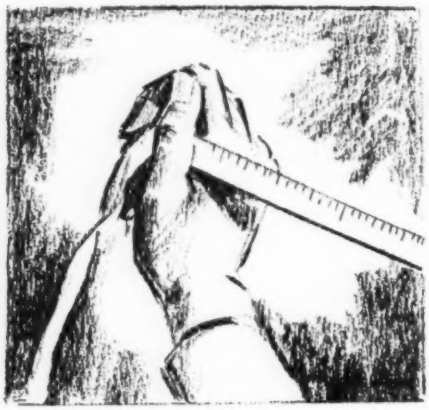

MACHINERY LIQUIDATING CO.

means before

◀MLC▶ Certified

1—18" Rusden Ager, 52" max. cloth width, with hot water heater, motor drive
1—6 sp. Sargent Bailing Machine
1—20 sp. Sargent Bailing Machine
1—54" Van Vlaanderen 19 roll Button Breaker
1—72" C & M 2-cylinder Brushing machine
1—39" Textile 5 Roll Calender
1—41½" Knit goods calender, stainless steel rolls with motor Reeves drive
1—50" 3-roll Textile Hydraulic Calender with pump and accumulator, motor driven
1—44" 2-roll Schreiner Calender
1—50" 4-roll Rolling and Chasing Calender
1—46" 7-roll Textile Hydraulic Calender
1—47" 3-roll Heavy Duty Friction Silk Calender, motorized
1—51" 11-bowl Hydraulic Chasing Calender, 2 chilled iron steam heated rolls, 7 cotton rolls, one cast iron roll
2—New 3-cyl. Set of 60x60 D&F Cards, with ±25 breast, Bramwell feed, double apron, tape condensers
1—80" Butterworth 6 Bowl Calender, 3 Cotton, 3 Brass Rolls
1—60" V.VI 3-cyl. Silk Calender
12—40" Lowell cards, 27" Doffers, 12" Collers
5—C&M Flock Cutters
3—48" D&F Rub Condensers, Double Bank, Double Apron with Spool Racks

◀MLC▶ Certified

1—54" x 60" D&F 2-cylinder Iron Shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
1—60" Windle 3C Doubler, motor drive
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set of 31-40" face Butterworth Dry Cans
1—Set of 21-39" face Vertical Copper Dry Cans with motor, Reeves drive
1—Set 30 copper Dry Cans, 23" x 123", in 3 vertical stacks
1—40" Schofield Box Duster with fan
1—48" Schofield Auto. Box Duster
1—Morrison 16 string s/s Dye Beck
1—96" P&S Loop Dryer
2—20 dels. Lowell & Saco Petee Drawing Frames 12" coilers
2—48" V. VI. Stainless Steel Dye Jiggs motor driven
3—52" Werner S/S lined Dle Jiggs
1—Raw Stock dyeing equipment with 4-1000# Motor Dyeing Machines, Blowers, Feeders, Dryers, etc.

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1—Set 8 Textile Vertical 48"x23" Copper Dry Cans
1—36" P&S Loop Dryer width 8'
1—36" C&M Duster
1—7" D&F Iron Cone Duster with Feeder
1—18" Copper Basket Extractor
1—26" Tolhurst Extractor, belt driven
1—32" Tolhurst Copper Basket Extractor
1—5" Broadbent Motor Driven Extractor
3—60" Tolhurst Copper Basket Extractors

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3—10", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
1—45" Riggs & Lombard Progressive Jiggs, 8 beams, squeezer with air set and swinging batcher, motorized
4—3-ton Kiers, motors, pumps and heaters
100—40" Draper Model K 20 Har Dobby Looms
99—45½" reed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven

PRINTING EQUIPMENT

2—NEW 60" R. B. F. 6 Color Printing machines suitable for large pattern work
2—NEW 50" R. B. F. 12 Color Printing machines
1—Used 64" R. B. F. 8 Color Printing machine
1—Used 54" Werner Single Color Printing machine

50—44" cloth width Draper Mod. E Auto. Rayon Looms, 4 harness cam motions, motor driven, rebuilt 1947
40—47½" r.s. Draper Model K, 20 harness Dobby Looms
35—52" b.s. C&K 2x1 non-auto. Silk Looms, 16 harness, motor driven
17—52" r.s. C&K 2x1 Auto. Silk Looms, 16 harness, motor driven
4—60" r.s. C&K 4x1 Looms, 20 harness dobbies and 1304 hook Jacquards, motorized

SPECIAL

68—43" r.s. Draper Model X Looms, with 39" sand rolls, Brown 4 harness tops, motor driven.

12—70½" r.s. C&K 4x4 Looms, 25 harness, motor driven
18—82" C&K 4x1 Auto. Looms, 16 harness, motor driven
1—Schofield Lumber
1—48" C&K 4x4 box Loom, 25 harness, belt driven, friction clutch
21—54½" C&K Box 20 & 25 Harness Dobby Looms
2—74" Heavy Duck Looms, roller top
14—82" C&K 2x1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4x4 Box Looms, 25 harness, belt driven
20—C&K 22" Ribbon Looms with intermediate gem heads, belt driven

••••**GOOD** used Textile Machinery is never an experiment—it is measured "Certified Value"— *when you deal with* ◀MLC▶

Full Measure of Value.... Machines are Shipped*

W-3 LOOMS AND SUPPLIES

12—New 72" between swords W-3 C&K 4x1 box, 24 harness Looms
20—82" C&K W-3 Looms, 25 harness
4—92" C&K W-3 Looms, 25 harness
Also shuttles, 8¾" 3-ring Bobbins

PRICED RIGHT

5600 Spindle Cotton Mill Balance on 40's Combed Yarn

75—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors

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- 3—Six to Fourteen Set Woolen Yarn Mills
- A Woolen Piece Goods Finishing Plant
- 3—Worsted Units
- 6—Cotton Mills, 3,000-100,000 Spindles
- 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment
400 Needle Hosiery Mill

3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machine with Veeder-Root counter
2—240 SP. J.&B. 1⅞ Ga. Mules
1—392 Spindle Smith 2" Gauge Mule
2—240 Spindle J.&B. 2" Gauge Mules
2—New 360 sp. D&F Mules, 2½" gauge
2—360 sp. D&F Mules, 2½" gauge, 1946

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1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper
1—72" P&W 20-roll Double Acting Napper
3—80" D&F 20-roll single and double Acting Nappers
1—76" 3-roll Mangle
1—30 x 30" Mezerra Wool Opener
1—48" D&F 2-cyl. Wool Opener with Feeder
4—45" 3-roll Padders
1—45" 2-roll Padders
1—40" H&B Single Process Picker with Eveners, Kirschner Beater, Ball Bearing Beaters with Condenser
9—40" Kitson Breaker Pickers, Finisher Pickers and Single Process Pickers, motorized
1—48" C.D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—66" Rodney Hunt 2-roll Padder, motor driven, 1947
1—Dodge Rag Picker
1—32" S&F Mixing Picker
1—Rodney Hunt Acetate Presetting Equipment
1—86" Voelker Press Motor Dr.
6—52", 65½, 66, Voelker and Gessner Single and Double Bed Rotary Cloth Presses
4—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Pin Type Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
3—60" P&W Single Blade Woolen Shears
1—50" Herman Shear with C&M Stitcher
1—72" Montfort Double Shear
1—63" Textile Finishing 4-burner Gas Singer
1—117" 4-burner Singer, air guiders, 2-roll quetch box
8—New 120 sp. D&F 6½" gauge Spinning Frames
14,268 sp. Mason, Whitin, F&J and Saco-Pettee 2¾" and 3" gauge band driven Spinning

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1—66" Parks & Wilson single Blade Plush Shear
11—66¾" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
2—Cameron Model 26 Slitters, motor driven
1—42" Firsching 20-knife Slitting Machine
2—Lowell 2-cylinder Slashers
1—40" Textile Clip Tenter, 60" opening with Housing
1—90" W&J S/S Clip Tenter, 102" opening with Housing
1—40' Kenyon Pin Tenter, 42" opening
1—70' Kenyon Pin Tenter, 46" opening

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1—60" C&M Single Brush type Tiger
1008 Sp. S.L. 3" Ring Band Driven Twisters
1—96 Sp. H&B 4½" Ring Tape Driven Twisters
3—80 Spindle Hopedale Band Driven Twisters 4½" ring, 5½" ga. Belt driven
1—240 spindle Draper Twister, 2" ring
1—228 sp. Draper 2" ring Wet Twister, with 300 new bobbins
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12 12A-21A Tube & Cone Winders
1—90 Sp. Foster Model 30 Cone Winder

Hosiery and Knitting Machines

400—Needle Dancing Twin Plant Equipment Complete
5—54 gauge 24 Section Full Fashion Machines
8—51 gauge 24 and 28 Section Full Fashion Machines
2—51 gauge 26 Section Short Needle Full Fashion Machines
3—51 gauge 20 Section Short Needle Full Fashion Machines
17—48 gauge 20 and 24 Section Short Needle Machines
6—48 gauge 20 Section Long Needle Machines
273—370 Needle "K" 3½" cyl. S&W
63—300 Needle "K" 3½" cyl. S&W
60—260 Needle "K" 3½" c. l. S&W
60—320 Needle 3½", 20 gauge Scott & Williams Plain K auto. machines with picot and double sole attachments
12—" 132 needle, 24 gauge Scott & Williams Komet Links and Links Machines
12—3½" 200 Needle, 48 gauge Scott & Williams Komet Links and Links Machines
25—RI Knitting Machines, 12 machines 3¾", 124 needle; 10 machines 3¾", 128 needle; 1 machine 3¾", 132 needle; 2 machines 4", 132 needle.
31—Banner 3¾", 176 needle, 56 gauge machines
1—Banner 3½", 176 needle, 48 gauge machine
12—Wildman 3¾", 88 x 88 needle, 24/36 gauge machines
Miscellaneous Ribbers, Looper, Preboarding, Seaming Machines

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From a crate to a carload

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability

31-33 West 42nd Street NEW YORK 18, N. Y.

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SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

Today our Industry needs men who

FROM RECENT TEXTILE WORLD

The most important trend in the textile industry is the generous and whole-hearted adoption of technically trained personnel and scientific operating methods, according to C. Norris Rabold, talking before the annual meeting of the American Association of Textile Chemists & Colorists. He paid special tribute to [illegible]

DYEING & FINISHING

1—BATCHER, 2-roll, 50", friction windup
1—UP & DOWN WET BRUSH, 66"
1—BRUSH, 6-roll, 47", vertical
1—BUTTON BREAKER, 19-roll, 64"
1—CALENDER, rolling head, 48"
1—CALENDER, 3-roll, 44", friction
1—CALENDER, 3-roll, 50"
1—CALENDER, 5-roll, 64"
1—CALENDER, 5-roll, 100"
1—CALENDER, hydraulic, 2-roll, 44"
1—CALENDER, hydraulic, 7-roll, 46"
1—CALENDER, hydraulic, 7-roll, 80"
1—CALENDER, embossing, 2-roll, 40"
1—CALENDER, embossing, 2-roll, 54"
1—CALENDER, embossing, 2-roll, 70"
1—CHINCHILLA MACHINE, 66"
1—CRAB, 2-bowl, 50"
1—DECATUR, semi, 72"
1—DECATUR, full, 72"
6—DOUBLING & WINDING MACHINES, 46"—66"—72"—80"
1—set 16 Stainless Steel DRY CANS, 60"
1—set 23 Copper DRY CANS, 67"
1—set 31 Copper DRY CANS, 96"
1—DRYER, loop, 84", fans, motors, etc.
3—DRYERS, pin, 60"—68"—84", guiders, housing, etc.
1—DRYER, package, 4000-lb. capacity
1—DRYER, skein, truck-type
1—DRYER, skein, continuous
1—DRYER, raw stock, 40' long
1—DRYER, raw stock, 72", single apron
1—DYE KETTLE, 9', wood, motorized
1—DYE KETTLE, 6', stainless steel, motorized
1—DYEING UNIT for tops, new
1—DYEING UNIT for tops, including 5 Intersecting Gill Boxes
2—DYEING UNITS, raw stock, 500-600 lb.
1—DYEING UNIT, 10 arm, monel metal, skein
1—DYEING UNIT, 12 arm, monel metal, skein
3—DYEING UNITS, skein, 28-56 stick
6—EXTRACTORS, 32"-60", belt and motor driven
4—FOLDERS, 40"-60", 1-1¼ yd.
3—FULLING MILLS, double compartments
1—FULLING MILL, 60", kicker type
5—INSPECTING & REWINDING MACHINES, with clocks
8—JIGGS, s.s., 48"-50"
1—NAPPER, 80", 24-roll, D.A.
1—NAPPER, 84", 36-roll, D.A.
1—NAPPER, 86", 24-roll, D.A.
1—NAPPER, 90", 20-roll, S.A.
3—NAPPERS, 72"-80", 12-14 roll, S.A.
1—NAPPER, knit goods, 20-roll, 80"
1—PADDER, 2-roll, 54"
1—PALMER, 64½" face x 60" dia. cyl., motorized
1—PALMER-TENTER-QUETCH UNIT, 60" width, 30' tenter, s.s. clips, motorized
5—THREAD POLISHING & DRESSING MACHINES, 2-brush units
2—ROTARY STEAM PRESSES, 66"-68"
1—PRINT MACHINE, 2 color, 44"
1—PRINT MACHINE, 4 color, 62"
1—PRINT MACHINE, single color, 72"
5—QUETCHES, 2-roll, 44"—50"—52"—60"
1—SCOURING UNIT, raw stock, 3-bowl, 36", feed and dryer
1—SCOURING UNIT, raw stock, 36", 4-bowl
1—SCOURING UNIT, raw stock, 54", 5-bowl and dryer
1—SCOURING UNIT, skein, 30", 2-bowl
1—SCUTCHER, 72", scroll rolls and detwister, motorized
6—SEWING MACHINES, railway, 40"-66"
2—MERROW SEWING HEADS, 60 ABB
6—SHEARS, 45"-80", single blade
4—SHEARS, 60"-66½", double blade
1—SHEAR, 60", 4-blade
1—SINGER, 4-burner, 66"
1—SLASHER, 3-can, 50"
1—SLASHER & BEAMING UNIT, 7-can, 47"
1—SLASHER, 5-can, 64"
1—SQUEEZE SET, 2-roll, 48"
1—SQUEEZE SET, 3-roll, 120"
1—TENTER FRAME, 90'x50"
1—TENTER FRAME, 90'x60"
1—TENTER FRAME, 50'x50"
1—TENTER FRAME, 50'x55"
3—WASHERS, 102", rope type

OPENING, CARDING & SPINNING

1—IRON WOOL CARD, 4-cyl., 48"x60", tape condenser
1—IRON WOOL CARD, 4-cyl., 60"x48", tape condenser
10—IRON WORSTED CARDS, 2-cyl., 60"x50"
1—New CARD CLOTHING TENSION MACHINE, 60"
4—TAPE CONDENSERS, 48", 96-ends each
11—TAPE CONDENSERS, 60", 108-120 end units
4—CONDENSERS, 48"-60", ring doffers
2—CONDITIONERS, yarn
15—DRAW BOXES, 4—6—8 spin. units
4—CARD FEEDS, 48"-60"
2—GARNETTS, 60x20, camel back and Blaemire Lappers
7—INTERSECTING GILL BOXES, 2-spin. ea.
4—GILL BOXES, open, single head
8—MULES, 3" gauge, 320 spin. ea.
7—MULES, 2½" gauge, 360 spin. ea.
2—MULES, 1¾" gauge, 480 spin. ea.
3—MULES, 2¼" gauge, 320 spin. ea.
9—MULES, 1-13/16" gauge, 650 spin. ea.
2—WOOL OPENERS, 2-cyl., 48"
3—PICKERS, Burr, 30"—36"—48"
2—PICKERS, mixing, 36"—48"
1—PICKER, Fearnaught, 48"x48"
1—PICKER, rag, 20"
3—ROVING FRAMES, flyer, 7x4, 32 spin. ea.
25—ROVING FRAMES, 9x4½, 12 spin. ea.

NEW—USED—REBUILT

TEXTILE MACHINERY

McDOWELL

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4—SPINNING FRAMES, 400 spin. ea., 2" ring
8—SPINNING FRAMES, 120 spin. ea., 6½" ring
5—SPINNING FRAMES, 192 spin. ea., 3" ring
1—TWISTER, 144 spin., 3½" ring
1—TWISTER, 40 spin., 4" ring
2—TWISTERS, 168 spin. ea., 2¾" ring
2—TWISTERS, 188 spin. ea., 3" ring
5—TWISTERS, dolly-roll trap, 192 spin. ea., 2½" ring
2—WARPERS, pinless, 107", motorized
4—Abbott WINDERS, model 64, 80 spin. ea.
4—Foster #101 TUBE WINDERS, 60 spin. ea.
1—FOSTER #30 CONE WINDER, 100 spin., with parallel tube attachments
2—FOSTER #25 WINDERS, 60 spin. ea.
1—Schweiter WINDER, 18 spindles
1—Foster #57 DOUBLER, 100 spindles
8—40" COTTON CARDS, 27" doffer, 12" coilers
50—45" COTTON CARDS, 26" doffer, 12" coilers
7—48" WASTE CARDS, 27" doffer, 12" coilers
12—COMBERS, D-2, 8-head, 12" coilers
2—SLIVER LAPPERS, 9¾" lap
2—RIBBON LAPPERS, 11¾" lap
4—DRAWING FRAMES, 18 deliveries
12—DRAWING FRAMES, 72 deliveries
16—DRAWING FRAMES, 64 deliveries
8—HOPPER FEEDERS, 38½"
3—INTERMEDIATES, 112 spin. ea., 9x4½
1—45" 1-Process PICKER
1—40" Single Process PICKER
1—QUILLER, 378 spin., 2½" gauge
4—REELS, skein, 54"—72"
4—SLUBBERS, 9x4½, 100 spin. ea., J-1, L.D.
5—SLUBBERS, 10x5, 112 spin. ea.
2—SLUBBERS, 12x6, 72 spin. ea.
4—SLUBBERS, 10x5, 96 spin. ea., model M L.D.

16—SPEEDERS, 8x4, 128 spin ea., J-1 L.D.
12—SPEEDERS, 7x3½, 160 spin. ea., J-2 L.D.
17—SPEEDERS, 7x3, 192 spin. ea.
13—SPEEDERS, 8x3½, 160 spin. ea.
32—SPINNING FRAMES, 3¼" gauge, 240 spin. ea., L.D.
52—SPINNING FRAMES, 3¼" gauge, 252 spin. ea., L.D.
38—SPINNING FRAMES, 2¾" gauge, 256 spin. ea., L.D.
23—SPINNING FRAMES, 3" gauge, 204 spin ea., L.D.
3—TWISTERS, 2¼" ring, 280 spin. ea.
14—TWISTERS, 2½" ring, 208 spin. ea.
3—TWISTERS, 3½" ring, 156 spin. ea.
2—TWISTERS, 4½" ring, 100 spin. ea.
4—TWISTERS, 4½" ring, 132 spin. ea.
1—Sectional WARPER, H.S., 20", magazine creel
1—WARPER, H.S., 54", magazine creel
4—WARPERS, reel, 92"x85", magazine creel
1—Universal #44 WINDER, 120 spindles
1—Universal #60 G.F. WINDER, 96 spindles

LOOMS

20—Draper E, 32", motorized
180—Draper E, 36", belt drive
68—Draper X, 39", motorized
40—Draper K, 40", dobby, belt drive
150—Draper E, 40", belt drive
140—Draper E, 44", belt drive
150—Stafford, 2x1, non-auto., 52½", motorized
42—Draper XP, 60", motorized
14—Draper D, 66", belt drive
24—Draper D, 68", 2x7 auto., motorized
42—Draper D, 72", 16-har., motorized
24—Draper D, 86", motorized
24—Draper D, 76", 2x1 auto., 20-har., motorized
25—C&K, 4x4 box, 44" R.S., motorized
18—C&K, 4x1, 45" R.S., 20-har., motorized
300—C&K, 2x1 auto., 54" R.S., dobby, motorized
21—C&K, 4x1 auto., 59½" R.S., motorized
8—C&K, 4x4, 60½" R.S., dobby, motorized
12—C&K, 4x4, 70½" R.S., 25-har., motorized
12—C&K, 4x4, 82" R.S., 25-har., motorized
4—C&K, 4x1 auto., 82" R.S., 25-har., motorized
22—C&K, 4x4, 92" R.S., 25-har., motorized
16—C&K, 4x4, 92" R.S., 30-har., motorized
4—C&K, 4x1 auto., 92" R.S., 25-har., motorized
4—C&K, 4x1 auto., 110" R.S., 25-har., motorized
4—C&K, 11/4 Axminster Carpet
1—C&K, 8/4 Axminster Carpet
2—C&K, 4/4 Axminster Carpet
6—C&K, 3/4 Axminster Carpet
2—C&K, 9', broad
20—Velvet, 42" R.S., double shuttle
3—Plush, 57" R.S.
40—Velvet, 56" R.S., double shuttle
4—Narrow Fabric, 15'8", 84-double deck batten
8—Narrow Fabric, 14'7", 28-space batten
24—Narrow Fabric, 17'9", 52-60 space batten
5—Narrow Fabric, 16'1", 42-50 space batten
10—Narrow Fabric, 16'8", 56-62 space batten

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BRONX 51, NEW YORK (Nr. 138th St.) **Tel. MElrose 5-6741**

Republic's Record for 1948

- **NORTH CAROLINA** — *SOLD*, 30,000 spindle mill with 600 looms, Mill Buildings, Mill Village.
- **MASSACHUSETTS** — *SOLD*, 26,000 spindle mill with 200 broad Looms, Dyeing, Finishing and Bleaching Divisions, Water Rights, Mill Buildings.
- **SOUTH AMERICA** — *SOLD*, 5,000 spindle Yarn Mill with all accessories and supplies. (Note: we arranged to supervise the dismantling of this mill, crating, packing, shipping, and are erecting same on location ready for operation.)
- **CENTRAL AMERICA** — *SOLD*, 1,000 spindle unit with all auxiliary equipment.
- **EUROPE** — *SOLD*, Printing and Finishing Plant.
- **SOUTH AMERICA** — *SOLD*, Spinning, Weaving and Finishing Plant Equipment.

We would appreciate the opportunity of consulting with you towards the sale of any of your surplus divisions or equipment.

We would be glad to supply you with market information as to available textile properties. Republic Textile Equipment Company offers confidential and experienced cooperation that has arranged many transactions satisfactorily to all concerned.

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APPRAISALS
PURCHASE
SALE
LIQUIDATION OF
MILL PROPERTIES

Republic MEANS QUALITY IN TEXTILE EQUIPMENT—

FINISHING EQUIPMENT

1—P&W Semi-Decator, 50"
1—V.V. 3 roll Calender, 43"
1—Hydraulic Calender, 3 roll, 50"
1—Butterworth Friction Calender, 5 roll, 60"
3—Extractors, 60"
1—Set 8 copper dry cans, 72"
1—P&W Napper, 62"
1—Nat'l Loop Dryer, 84"
6—Morrison Dye Jiggs, 50"
1—Werner Palmer Unit
2—Cottage Steamers
1—Winsor-Jerauld Tenter Frame, 40"
1—Werner Pneumatic Padder, 60"
2—V.V. Dye Jiggs, 60"
1—Print Machine, 6 color, 48"
1—Print Machine, 12 color, 48"
1—V.V. Dry Box
2—Smith-Drum, 20 arms, Skein Dyer
1—Smith-Drum, 60 arms, Skein Dyer
1—Doubler & Roll, 54"
1—V.V. Tuber, 50"
1—Pebble Embossing Calender, 50"
1—Batcher, 40"

COMPLETE MILLS

Cotton Spinning, 20,000 sp. & Weaving 600 looms
Cotton Spinning, 11,000 sp. & Weaving 250 looms
Cotton Spinning, 8,000 sp.
Cotton Spinning, 3,500 sp.
Woolen Spinning, 1,600 sp.
Worsted Weaving, 100 looms
Worsted Weaving, 30 looms

WARPING

6—Cocker Slow Speed Warpers
1—Saco-Lowell Slasher, 5 drums
1—Johnson Slasher, 3 drums
2—B-C H.S. Warpers
1—B-C Tie-In, 72"
1—Cocker Ball Warper

WINDING

50—Universal #50
17—Foster Cone Winder, 6 sp.
9—Sipp Winders, 140 sp.
12—Universal #90 winders.

WEAVING

20—C&K, 4x4, 82"
100—C&K S5
68—Draper X, 42"
21—C&K C4, 60"
42—Draper Rayon, 80"
24—Draper K, 43"
24—C&K 4x1, 48"
18—C&K 4x1, 84"
60—Draper E, 47½"
60—Draper E, 40"
5—Draper Spoolers, 4½ ga., 120 sp.
1—B-C auto. spooler, 140 sp.

CARDING AND SPINNING

14—Whitin D-2 combers 12"
12—Whitin Drawing, 6 del.
24—Whitin Spinning, 1 7/16" rings, 288 sp.
2—Whitin Twisters, 4" ri, 104 sp.
8—Woonsocket 12x6 Slubber 68 sp.
12—Woonsocket 7x3½ speeders 176 sp.
3—Whitin Drawing, 6 del. F.
5—Whitin Twisters, 2" ri, 240 sp.
14—Atwood Twisters, 2¾" ri, 100 sp.

Forward your inquiries for equipment not listed.

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40 WORTH ST. · NEW YORK CITY
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Purchase and Sale of Used Machinery

We have your TEXTILE MACHINERY NEEDS!

SPOOLS—200,000
200,000 3" Fibre-head, 3½" Trav., 1½" Bar. For Winding or Redraw.

SPOOLS—100,000
100,000 3⅝" Fibre-head. 5" Trav., 2" Bar. 1 lb. pkge., winding or redraw.

SPOOLS—25,000
25,000 4½" st. steel hollow gudge. hd. 4⅜" trav., 2" bar, for steaming. 1 lb. capacity.

SPOOLS—50,000
50,000 2¾" composition head. 3½" Trav., 1¼" Bar. for winding, and shipping.

NARROW FABRIC EQUIPMENT and PARTS

BEAMS

8" HEADS	9" HEADS	12" HEADS	18" HEADS
4", 5", 6" Trav.	2", 3", 42" TRAVERSES	10½", 18½" TRAVERSES	6", 7", 12" 42" TRAVERSES

Good Selection of: 6 and 4 pin Automatic Lettoffs, Fibre and Wood Warp Spools, Shuttles, Heddles, Weights, Beam Brackets, Glass Bars, Cams, Hook Pulleys, and many others too numerous to list.

14 C & K—4 x 4—68"
Dobby head type
- ★ LOOMS, Excellent condition.
- ★ INDIVIDUAL MOTORS, 3 phase, 220 volts.
- ★ 3 SHIFT PICK COUNTERS
- ★ HEAVY DUTY TYPE ROLLER BEARING

Looms must be seen for full appreciation of value!

11 C & K—2 x 1—56"
20 Dobby
- ★ OPERATING CONDITION, Heavy Duty
- ★ INDIVIDUAL MOTORS, 3 phase, 220 volts
- ★ CENTER STOPS
- ★ VEEDER ROOT—pick counters

Your inspection invited . . . .

4 C & K—4 x 4—68"
Gems Heads
- ★ INDIVIDUAL MOTORS, 3 phase, 220 volts
- ★ CENTER STOP

Come in and Look Them Over . . . .

3000 Brugger Adjustable Swifts for Rayon or Silk
3—MOTORIZED EXTRACTORS, 36", 48", 60"
50,000—3 Ring Automatic Bobbins, 7⅜"
30,000—7" Paper Caps with Metal Lip

CONERS

20 Universal #50, Gear Gainer, motorized, 220 volts, 3 phase, anti-wear Tensions, 3-30 Tapir Cones, in excellent operating condition.

8 SAME AS ABOVE EXCEPT BELT GAINER

6 FOSTER MODEL 75-A For COTTON; Motorized, complete with Waxing Attachments.

GOOD USED MOTORS
WESTERN ELECTRIC

A.C. TYPE KT SERIES 100, 3-PHASE, 220 VOLTS, 60 CYCLES.

200	2 H.P.	1200 R. P. M.
90	3 H.P.	900 R. P. M.
25	5 H.P.	1800 R. P. M.

ALSO MISCELLANEOUS MOTORS IN VARIOUS SPEEDS AND PHASES.

RAYON OR SILK TWISTERS

6 FLETCHER
MOTORIZED 1934 MODEL
6" Gauge Single Deck Twisters

3—80 spindle machines and 3—70 spindle with 6⅛" centers, 3½" wide cork covered take-up pulleys, 4½" diam. motor pulleys, 3 HP General Electric motors with starting switches, 220 volts, 60 cycles. Machines in excellent condition. Excellent Bobbin Equipment Available for These Machines at Low Cost.

6 ATWOOD 5-B SPINNERS

All individually Motorized 2 HP, 3 Phase, 220 Volts, 60 cycle motors. Bobbin Equipment with all machines, 104 each spindle, 4" spacing, 3" rings, double 2" feed rolls.

9—FLETCHER
5-B SPINNERS

All individually Motorized 2 HP, 3 Phase, 220 440 volts, 60 cycles, 84 spindles, 5¼" spacing, 3⅛" Whitin rings, double 2" feed rolls. Excellent condition. Bobbin Equipment with machines.

WINDERS

10—#90 UNIVERSAL WINDERS
LATE TYPE—EXCELLENT CONDITION
INDIVIDUALLY MOTORIZED WITH ¾ H.P. MOTOR.
#40,000 SERIAL NUMBER.
BUNCH BUILDERS, 20 SPINDLE EACH MACHINE

COCKER 11 DRUM 60" Wide 30" Diameter Drums

SLASHER
Almost NEW
Used Only 16 Months

Stainless steel drums, 5 beam take ups, double Quetch. Reliance single motor, variable speed drive 15 H.P., 1150 R.P.M. Taylor instruments and piping. Special reeds, 1⅛" wide. Johnson joints, bearings and flexible tubing.

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1—5-Roll 64" Calender, late type.
2—Butterworth 66" 2-Roll Embossing Calenders.
1—Rice, Barton & Fales 4-color 43" Print Machine.
1—Proctor & Schwartz 4-Truck Dryer.
1—Cavagnero 2-roll Hydraulic 60" Embossing Machine.
1—Van Vlaanderen 60" Palmer Tenter Unit.
2—Hermas 50" Inspection Machines.
1—Van Vlaanderen 10-color Ribbon Printer.
2—72" 36-roll Nappers.

1—Woonsocket Double Acting 100" Napper.
4—Prince-Smith Dolly Roll Trap Twisters.
2—Sargent Yarn Conditioning Machines.
4—Haskell-Dawes 12 Spindle Twisters.
1—Johnson 3-Drum 52" Slasher.
6—3-iron Cylinder Cards, 60" x 60", 48" x 60".

NOBLE COMB INSTALLATION, consisting of:
6—Prince-Smith Combs, 2 backwashers.
2—Double head gill boxes.
Hydraulic and non-hydraulic Sheridan presses.

LIQUIDATING FROM ATLAS POWDER COMPANY, Zapon-Keratol Division
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Finishing Range consisting of: 40' - 72" Tenter Frame and Housing.
24—60" Drying Cans, 2-roll 60" Padder.
12—60" - 72" Double Blade Coating Machines or Spreaders, complete with housing for drying.
7—2 & 3-roll Embossers. 40" - 72" face. 60" Stainless Steel Dye Jiggs.
MISC.: Tubing, Measuring & Examining Machines, Rotary Sewing Machines, Wooden Shells, Tanks, etc.

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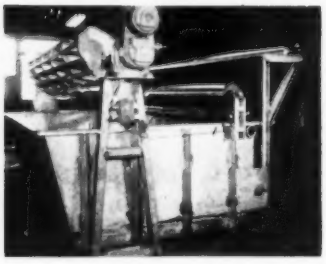
AGER, Wood, Acid, New
AGER, Stainless Steel Acid
AGER, Tower, New & 2nd hand
BEAMER, 60" Van Vlaanderen
BEAMER, 60" with steaming Drum
BLOWER, New Squirrel cage type
BLOWERS, G.C. 8x5-3/5" 350 cu. ft. per min.
BOIL-OFF MACHINES, New, 3 & 5 drum
BUTTON BREAKER, V.V. spiral, 60"
BUTTON BREAKER, V.V. 60"
CALENDER, Kasterinsky 36" for knit goods
DRY CANS, set of 8, 72"x23" dia. horizontal
DRY CANS, 7, Morrison 48" high pressure
DRYING, DRUM, 61" face x 24" dia.
DRYER, Loop 84", 10 fans, revolving poles
DYE BECKS, Stainless steel 4' to 20', New
DYE BECK, 2' Sample, stainless steel lined
DYEING MACHINES, Smith-Drum Paddle type
DYEING MACHINE, Rochester, Rotary 30"x20", 3 pocket 20 lb. capacity
EXTRACTOR, 26" American, Motor driven
EXTRACTOR, 48" Burkhardt, rubber basket
EXTRACTORS, Beam 50" & 60" B.B.
EXTRACTOR, K&G 48" rubber lined basket
FLAT FOLDERS, Elliott & Hall adjustable
INFRA RED Units complete with blowers
INSPECTION TABLES 47"
JIGGS, 90" Stainless Steel Lined
JIGGS, 50" St. St. & rubber lined
KNITTING MACHINES, Lamb 24"
MOTORS, ¾ to 5 HP AC/DC 220 volt
PADDER, 90"
PALMER QUETCH UNIT, Butterworth, 54 & 60"
PRINT MACHINE, 10" samples & ribbon
PRINT MACHINES, 6 & 8 color, 60" Waldron
PUMP Worthington Vacuum, 18x9 complete with 25 HP
QUETCH, 2 roll BB 50" & 60" ball bearings
QUETCH, 3 roll 60" Morrison, motorized
SCUTCHER, New
SEWING MACHINE 60ABB with 72" carriage
SHEAR, Hermas, 4 knife, 70" wide
TENTER FRAME, Pin W&J 40' x 190' wide
TUBERS, Paterson, variable speed motors
WASHERS, Slop, New, stainless steel
WASHER, Steel, G.L. type
WASHER, Slop, Cypress, 15' lg.
WINDING MACHINES, New Loose interleading



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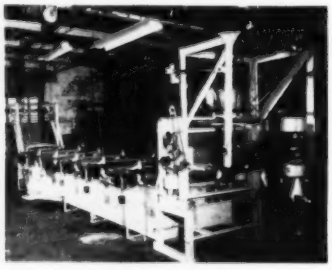

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SPECIALISTS IN REBUILDING & RECONDITIONING LOOMS

MOTORS, GENERAL ELECTRIC, TEXTILE, NEW, ¾ H. P., 3/60/220/1200

12—Crompton & Knowles Quill Change Automatic Looms, 81½" between layswords, now running as a 1x1 but is equipped with a 4 cell shuttle box and laysword to operate as a 4x1 loom. Individually motor driven. Has gears on both ends of the crankshaft eliminating the twisting strain on the crankshaft. Has extended bottom shaft to operate Jacquard Machine and 2 shift pick counters.

COMPLETELY REBUILT LOOMS

C & K 2 x 1, 54" Reedspace
C & K 4 x 1, 54" Reedspace with Multiplier.
Roller Bearing, Shock Absorber, heavy bar, individually motor driven, 20 harness dobby.

5—Crompton & Knowles Heavy Wool type, 2 x 2 looms, 66" between layswords with 1½" x 2¼" Shuttle Boxes. Individually motor driven and extended bottom shaft to operate Jacquard Machine.

8—Hunt Machine Works, Draper (60" finished goods) 85½" Reedspace Automatic Looms like new, with all new equipment motorized 1 HP G.E. Motor, complete with Feeler, cutter and #3 Battery, including Spreaders new 24" beams and electric warp stop motions

12—Model E Automatic Draper Looms, 53½" Reedspace, motorized, completely reconditioned with Stafford Cutter and Midget Feeler

8—Model K Automatic Draper Looms, 47½" Reedspace, 20 hook dobby, motorized, completely reconditioned with feeler and cutter

10—Model E Automatic Drapers, 65½" Reedspace with lacey top for 5 shaft operation, completely reconditioned with feelers and cutters

30—Model E Automatic Draper 45½" Reedspace with lacey top for 5 shaft operation, motorized, electric stop motion, completely reconditioned with feelers and cutters

20—80½" Reedspace Draper Automatic Quill Change, Double drive looms, individually motor driven, with electric stop motion, some equipped with 600 hook double lift Jacquard machines

2—Atwood 5Bs Doubler Twisters, motorized, 100 spindles, 6 Ends.

20—#90 Universal Quillers and Coppers with and without bunch builders, completely rebuilt

Harness Shafts, all sizes

10 M—Automatic Quills 8", 8¾"

Eastwood and Sipp Warpers 84", 72"

1—New 60" Measuring Machine, variable speed

1—Complete Dictaphone consisting of 1 Recorder, 1 Transcriber and 1 Record Cleaner

1—Victoray Photo Copy Machine with Automatic Timer

Lockers—All steel, 6½ ft. high, 12 inches wide, 15" deep.

Double Lockers, 2 openings to each locker, each opening 3 ft. high. We have 72 of these double lockers for sale

½ H.P. Used Textile Motors, 220 Volt, 3 Phase, 60 Cycle.

FLOOR SPACE AVAILABLE

Crompton & Knowles and Draper parts, *new and used*

New Stafford Cutters **New Draper Motor Drives**

WE BUY & SELL
FROM A SINGLE ITEM TO A COMPLETE PLANT
NEW and USED TEXTILE MACHINERY

Patterson Textile Machinery Exchange
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22 SPRUCE ST. **SHerwood 2-1363-4-5-6** **PATERSON 2, N. J.**

"YES—THAT'S THE ANSWER!"

BAY STATE *Sells* *Textile* MACHINERY

TYPICAL OFFERINGS

NEW EQUIPMENT

8,000 spindle Cotton Spinning Unit Long Draft—Complete.

2 Saco-Lowell 10x5 Slubbers Model FS-1.

2 Saco-Lowell 8x4 Slubbers Model FS-1.

2 R.B.&F. 12 color Printing Machines.

2 R.B.&F. 6 color Printing Machines.

8 Hunt Mach. Co. 60" Looms. All NEW equipment and motors.

1 Morrison 3 roll Padder 72", 15 ton.

1,000—12" Seamless Fibre Roving Cans. NEW Spinning Rings, Bolsters, Bases and Spindles.

USED UNITS

3,300 spdle. Worsted Spinning Unit, Bradford System, complete, A-1 Condition.

30,000 spdle. Print Cloth Unit, 800 Looms—Late Model Equipment. Complete with all supplies.

9,900 spdle. Cotton Spinning Unit, machine ages 1926/42—Long draft spinning.

29 Loom Worsted Weaving Unit, Rebuilt completely—New Motors. Complete in every detail, can be financed.

INDIVIDUAL MACHINES

1 Foster #30 Cone Winder 100 spdle, m.d.

1 Foster #25 Doubler, 4000 lbs. cap.

1 P&S Package Dryer, 4000 lbs. cap.

1 Whitin Mod. A Wool Spinning Frame 4" ga.

5 Dodge Rag Pickers.

1 C&M 48" Mixing Picker.

1 C&M 36" Mixing Picker.

2 S&U 48" & 54" Extractors, m.d. 220 V.

18 C&K 4x1 Huck Towel Looms, 36" b.s.

6 S-L Tape Drive Twisters, 3½" rings, 4½" ga.

12 Whitin Spinning Frames, Roth Long Draft, Tape Drive, 3" gauge.

32 S-L Spinning Frames, Roth Long Draft, Tape Drive, 2¾" ga. 240 spdles, age 1932.

32 Draper Mod. D. Looms, 64" cloth, Gem Heads, m.d.

100,000—8¾" Automatic Loom Bobbins.

5,000—10x5 Saco-Pettee Slubber Bobbins like new.

20,000—Twister Bobbins, various sizes.

50,000—7⅜" Automatic Loom Bobbins.

75,000—8x4 Saco-Lowell Roving Bobbins.

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On our staff are names well known in the field with a fine reputation for satisfactory service.

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Our growth is proof that we deliver what Industry wants.

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DYEING, FINISHING & PRINTING MACHINERY

1—V.V. Tenter Frame, 40', 60" wide, S.S. clips, M.D.
1—MORRISON 60', 60" wide Tenter Frame, S.S., M.D.
1—W.&J. 60' 60" wide Tenter Frame, S.S. clips, M.D.
1—W.&J. 70' 60" wide Tenter Frame, S.S. clips, M.D., Sewing type
2—AMERICAN Extractors, 60" M.D. (1941)
1—FLETCHER Extractor, M.D. 42" (1945)
3—PROCTOR & SCHWARTZ Loop Driers, 20-40' long, M.D.
1—TEXTILE Hydraulic Calender, 44" wide
2—WOONSOCKET Nappers, D.A. 82" M.D., 36 rolls
2—C.&M. Shearing Machines, 60" wide
2—PHILADELPHIA Skein Driers
3—Cotton Slashers
15—Sets of Dry Cans, S.S. & Capper from 6 cans to 50 cans: 50" to 144" wide
1—V.V. Quetsch, 60" 2 roll M.D. jacketed pan
2—Werner Jiggs, 60" x 70" S.S. ball bearing
1—National Loop Dryer, 8 fan, 2 line, 1946 model
1—Rodney-Hunt 2 Roll Padder—66" wide (1947)
1—TEXTILE AGER, 18' long, 60" wide
2—V.V. DECATORS; 1 BRAND NEW 72" wide
1—Butterworth calender, hydraulic, 7 bowl, 80"
1—Morrison 16 spring S.S. Dye Kettle, M.D. 1947)
1—Smith Drum 3 tube Skein-dyeing Machine (1947)

WEAVING & SPINNING

LOOMS—SPECIAL
64 C & K-5-6 SILK & RAYON, 1949 MODEL DELIVERY, JUNE & JULY
70—C & K—C-4, 64" looms, Complete, M-D

12—C.&K. W-3 92" looms
18—C.&K. W-3 100" looms
48—C.&K. 4x1, 82" looms
24—C.&K. 4x1, 72" looms
24—C.&K. 2x1, 72" looms
48—C.&K. 100 Draper Mod. D. 50"
72—Draper Model E 47½"
60—Draper Model E 45"
40—C.&K. 2x1, 52"
24—C.&K. 4x4, 100"
36—C.&K. 4x4, 82"
24—C.&K. 4x4, 76"
500—Draper Model E, 40"
24—WHITIN Spinning Frames, Long Draft
24—WOONSOCKET Cards 40", 12" coilers
2—BARBER-COLMAN Warp Tying-in machines, Model J16, size 4J
1—Barber Colman Tying-in-Machine, L.S. (1946)
25—FOSTER Winders
4—WINDERS, Models 101 and 102
2—54" Flat Folders
Miscellaneous Drawing, Finishing & Roving, intermediates

WORSTED AND WOOLEN EQUIPMENT

2—WHITIN Cards, 60", 3 cylinder, tape condensor
1—D.&F. Cards 60", 3 cylinder, tape condensor
8—D.&F. Worsted Cards 54" wide, 2 cylinder
2—D.&F. 48"x60" 3 cylinder cards
*All above cards have iron cylinders
7—French Combs
10—PRINCE-SMITH Spinning Frames, 200 spindles
8—D.&F. Spinning Frames, 120 sp., 6½" ga. (1946)
4—PRINCE-SMITH Twisters
12—D.&F. Mules large package, 360 sp., 2½" ga. (1947)

COMPLETE COTTON MILLS

5,000 to 30,000 spindles; conventional, long draft, combed and carded with and without weaving

RAYON WEAVING MILL

60—C.&K., 54" & 52" Looms

COMPLETE WOOLEN AND WORSTED MILLS

1—2000 Spindle Worsted
1—2-Set Bradford Worsted Spinning
1—3-Set Card Woolen
1—1900 Spindles Woolen

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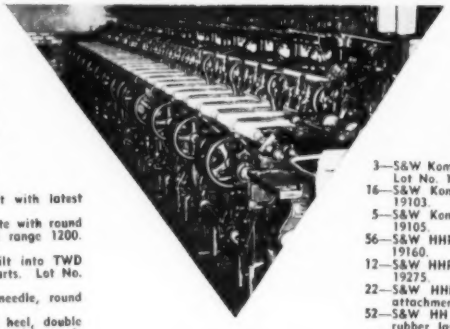
NEW - USED and REBUILT EQUIPMENT

Full Fashion Hosiery

4—Reading, 51 gauge, 30 section, with welt turners, and gore heel attachments including auxiliary attachments. Lot No. 18672.
4—Reading, 51 gauge, 30 section, 3 carrier, Picot and Pointex, Back Rack, 80 CPM, Lot No. 19134.
5—Readings, 51 gauge, 24 section, reconverted with magnesium needle bars, new Kruse & Slattery parts with round heel attachments. Lot No. 18760.
1—Reading, 51 gauge, 26 section, rebuilt with latest attachments. Lot No. 18544.
37—Wildman 54 gauge, single unit, complete with round heel, picot, pointex, back rack, serial range 1200. Lot No. 18492.
33—Wildman, 54 gauge, single unit, rebuilt into TWD type, have all new original Wildman parts. Lot No. 19040.
1—Reading, 48 gauge, 18 section, long needle, round heel attachments. Lot No. 18961.
6—Reading, 45 gauge, 24 section, round heel, double needle bars, recently overhauled complete with standard attachments. Lot No. 17704.
3—Reading, 45 gauge, 24 section, short needle, high speed, round heel. Lot No. 17440.
6—Lieberknecht, 45 gauge, 28 section, picot, pointex, auto hookup, welt turner, back rack. Lot No. 18493.
4—Reading, 42 gauge, 24 section, 3 carrier, picot, pointex, back rack, 60 CPM. Lot No. 18097.
7—Reading, 42 gauge, 20 section, picot, pointex, 3 carrier, round heel. Lot No. 18783.
5—HSL, 42 gauge, 20 section, back rack, round heel. Lot No. 17629.
5—Karl Lieberknecht, 42 gauge, 24 section, back rack. Lot No. 14595.



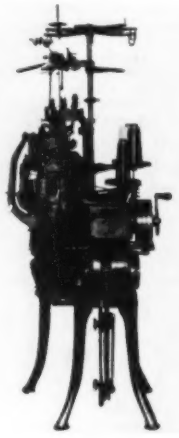
Reading Full Fashion Machine

Ladies Seamless

50—S&W Model K, 3¼", 240 needle, usual attachments. Lot No. 17710.
60—S&W, 3½", 320 needle, 70 gauge, plain K's, with picot and double sole. Lot No. 19170.
25—S&W Dancing Twins, 3½", 370 needle, practically new. Lot No. 17973.
4—S&W K Spiral, 3½", 370 needle. Lot No. 19141.
50—S&W, 400 needle, Dancing Twins. Lot No. 19179.
8—New Fidelity, 400 needle, 3½", in original crates. Lot No. 19276.

Children's Hose

1—Banner 2", 160 needle, 70 gauge, rebuilt, with new cylinder, etc. Lot No. 18690.
6—Banner 2⅛", 180 needle, 70 gauge, rebuilt with new cylinder. Lot No. 18691.
1—Banner 3", 220 needle, 70 gauge, rebuilt with new cylinder. Lot No. 18692.
1—Banner High Cylinder machine, 2½", 148 needle, 54 gauge. Lot No. 18673A.
1—Banner High Cylinder machine, 2½", 168 needle, 54 gauge. Lot No. 18673B.
4—Banner High Cylinder machines, 2¾", 168 needle, 54 gauge. Lot No. 18673C.
14—Banner High Cylinder machines, 3", 180 needle, 54 gauge. Lot No. 18673D.
6—S&W B-3, 2", 100 needle, 48 gauge, rebuilt, new heads. Lot No. 19500B.
10—S&W B-3, 2¼", 110 needle, 48 gauge, rebuilt, new heads. Lot No. 19501B.
10—S&W B-3 2½", 120 needle, 48 gauge, rebuilt, new heads. Lot No. 19502B.
12—S&W B-5, 2¾", 132 needle, 48 gauge, rebuilt, new heads. Lot No. 19503B.
12—S&W B-5 3", 144 needle, 48 gauge, rebuilt, new heads. Lot No. 19504B.



S & W HH Spiral

•

Write us for detailed specifications and complete listings.

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Our catalog "Machinery for Knitting" available on request.

Men's Hose

7—Autoswift English rib machines, 4", 168 needle. Lot No. 19156.
10—S&W Komet Links & Links 3½", 200 needle, 48 gauge, double patterning, Ilet closing device, Wesco stop motions. Lot No. 19075.
12—S&W Komet Links Links 3½", 200 needle, 48 gauge, complete with Wesco electric stop motion. Lot No. 19173.
3—S&W Komet Links Links, 3½", 240 needle, 54 gauge. Lot No. 19106.
16—S&W Komet Links Links 4", 132 needle. Lot No. 19103.
5—S&W Komet Links Links 4", 168 needle. Lot No. 19105.
56—S&W HHPW 3½", 200 needle, 48 gauge. Lot No. 19160.
12—S&W HHPW, 220 needles, 3½", 54 gauge. Lot No. 19275.
22—S&W HHPW 3½", 220 needle, 48 gauge, rubber attachments. Lot No. 19064.
52—S&W HH Spirals, 3½", 220 needle, 25 step, with rubber lay-in attachments. Lot No. 19161.
30—S&W HH Spirals, 3½", 220 needle, 48 gauge, 96 rack, with striper attachments. Lot No. 19080.
20—S&W K's, 3¾", 120 needle, cushion sole, rubber top. Lot No. 17725.
16—S&W B-5, 4", 84 needle, set up on transfer tops. Lot No. 18272.
2—Banner Wraps, 3¼", 240 needle, 8 step. Lot No. 17766.
8—Banner Wrap, 3¾", 120 needle, 12 step, Reverse Plait, 8 step Wrap. Lot No. 19001.
8—Banner Wrap Reverse Plait machines, 3¾", 120 needle, horizontal stripers, 8 step Wrap rubber top. Lot No. 19112.
2—New Banner Wrap, 3¾", 120 needle, 18 gauge, complete with half hose attachments. Lot No. 18558.
18—Banner, 3½", 176 needle, high cylinder, rubber top, drop stitch. Lot No. 17690.

Underwear & Outerwear

2—Wildman, 12", 10 x 10 cut, 8 feed. Lot No. 19052.
1—Wildman 14", 10 x 10 cut, 8 feed. Lot No. 19052.
1—Wildman 16", 10 x 10 cut, 8 feed. Lot No. 19052.
1—Wildman 17", 9 x 9 cut, 8 feed. Lot No. 19052.
8—Scott & Williams Rib Machines, 3—17", 1—18", 1—19", 1—20", 1—22", 1—24", 16 feed, 16 x 16 cut, set up on eyelet type fabric. Lot No. 18764.
1—S&W Ribber, 16", 14 x 14 cut. Lot No. 19169.
1—Wildman 16", 14 x 14 cut Ribber. Lot No. 19057.
1—Wildman 18", 14 x 14 cut Ribber. Lot No. 19057.
3—Supreme MJ, 20", 22 cut, 64 feed, Wesco electric stop motion, individual motor drives. Lot No. 17476.
6—Supreme MJ, 20" 20 cut, 64 feed, Electric stop motion, individual motor drives. Lot No. 17477.
1—Brinton 20", 22 cut, 48 feed, circular Jersey Knitter. Lot No. 19072.
1—Brinton 24", 22 cut, 64 feed, as above. Lot No. 19073.
1—Brinton 26", 22 cut, 64 feed, as above. Lot No. 19074.

Loopers & Seamers

100—Satco Loopers complete with chain clippers, from 12 point to 40 point.
4—Union Special 41-300 Seamers. Lot No. 19236.
4—Union Special Class A2D. Lot No. 19287.
9—Union Special Class 60 UD Seamers. Lot No. 19266.

Extractors & Dye Machines

1—American Extractor, 26" Monel basket, rebuilt, motor drives, safety cover. Lot No. 16613.
1—Zephyr 32" Monel basket, motor drive.
2—Zephyr, 40" stainless steel basket, safety cover, automatic timer, rebuilt. Lot No. 14702.
1—Strickland 25 lb. Paddle Dye Machine, motor drive. Lot No. 19049.
1—Smith-Drum 50 lb. Rotary Dye Machine, 12 RD, 4 pocket monel metal, motor drive. Lot No. 19198.
1—Smith-Drum 3 Tube Skein Dye Machine, motor drive. Lot No. 19140.

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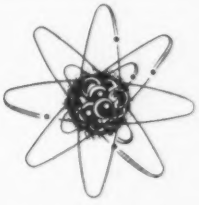
By WILLIAM B. DALL, Managing Editor, TEXTILE WORLD



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1—American Monitor Flat Work Ironer, two (2) cylinders 30" dia. x 120" face, 4½ H.P. motor, variable speed, 3 ph, 550 V, and controller.

4—American Laundry Machinery Co. Zarmo Air Drive Presses, 20" x 56" Buck.

1—Pasting Machine, 56" steam chest.

1—Brush Sprinkler and Winder, 51" face, 10 H.P.

1—J. E. Carroll & Co. Copper Mixing Kettle, 36" dia., 34" deep, 10 H.P. motor and switch.

2—Pillow Slip Turners, Olin Scott Machine Co.

2—Riggs & Lombard Progressive Jiggs, 8 beams, 45" face, squeezer with air set and swinging batcher, 2—10 H.P. and 2—7½ H.P. gear head motors.

1—Parks and Woolson Shear with 3—66" Cutters.

1—Monfort Shear with 2—60" Cutters.

1—5 Roll Calender, 2 iron and 3 cotton rolls, 47" face, 3 bar Mycock Expander, 40 H.P. motor, 3 ph., 60 cyc. (No. K40KS).

1—4 Roll Calender, 2 iron, 2 cotton rolls, 40" face, 3 bar Mycock Expander, no motor (No. K30KS).

1—4 Roll Calender, 2 iron, 2 cotton rolls, 40" face, 3 bar Mycock Expander, 30 H. P. motor, 3 ph., 60 cyc.

1—6 Roll Calender, 3 iron, 3 cotton rolls, 49" face, 40 H.P. motor, 3 ph., 60 cyc.

1—3 Roll Heavy Duty Friction Calender (SLK), screw set, top steel roll 14" x 48", center cotton roll 21" x 47", bottom iron roll 19" x 51", 50 H.P. motor, G. E., 900 R.P.M., silent chain drive, friction clutch, manual starting compensator.

1—Sanforizer with 66" face entering rolls, Cole spray, steaming rolls, 40" clip expander and palmer with 68" face rolls complete with Schwartz guider.

1—Proctor and Schwartz 8' Loop Dryer, 10 H. P., complete with fans and heaters.

1—Weisbach 11 bowl Chasing Calender, 51" face, 3 chilled iron rolls, steam heated, 7 cotton rolls, 1 cast iron roll, hydraulic set through compound lever, 13 strand chasing, variable speed slip ring motor, 75 H.P., 5 H. P. motor on hydraulic pump.

1—Set 30 Copper Drying Cylinders, 23" x 123" in 3 vertical stacks. 25 H. P., B. T. A. motor.

1—Singer with 4 burners, air guiders, quench box with 2 rubber rolls, 117" face, 2 Vapofier Gas Generators and Pilot Generator, 20 H.P., B. T. A. motor.

1—Set 30 Copper Cans, 132" wide, horizontal stands, siphoned.

1—Set 34 Copper Cans, 50" vertical stands, removable journals, bucket type.
Steel, Copper Cans, all widths.
Expanders, rubber, brass, all sizes.
Porcelain Pot Eyes, from 1½" to 5" diameter.
All makes of Tenter Chains.

2—Bleach House Squeezers, rubber to rubber rolls, 18" x 18".

3—Bleach House Squeezers, rubber to brass rolls, 18" x 18", adjustable pot eye.

1—90' Butterworth Swing Tenter, 60" wide with Schwartz automatic Guide; #4 Reeves Drive, 20 H.P. Motor; 62" Coating Head and Motor, 1 H.P. Watson, 220 volt; Swing Folder.

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Coating Machine
72" width Cloth Roll—Chain Drive

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All Stainless Steel—60" Basket Made by American Tool & Machine Co. Includes special Louis Allis 15 HP. Motor on main drive and auxiliary 1½ HP motor for treatment at low speed of 30 RPM with cycle control for reversing at low speed.

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2 Derby Doublers or Sliver Lap Machines
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WEAVING:

12—C&K, 50" Automatic, Rayon, 2x1, Motor driven
32—C&K, 42" Automatic, Rayon & Cotton, 2x1, Motor driven
130—C&K, 52" Nonautomatic, Rayon & Silk, 2x1, Motor driven
40—DRAPER, 47", Model "E", arranged Rayon, New Motor and driven
24—STAFFORD, 52", Nonautomatic, Rayon & Silk, 2x1, motor driven
128—DRAPER, 42", Model X, Motor driven
28—C&K, 92" Pick and Pick, 4x4, Motor driven
44—DRAPER, 80", Modified D, Motor driven
12—C&K, 82" Automatic, 4x1, Motor driven
50—C&K, 72" Pick and Pick, 4x4, Motor driven

SPINNING:

4—WINDERS, No. 90, Motor driven
1—WINDER, Foster Model 30, 100 spindles, Motor driven
2—WINDERS, Foster Model 101, 100 spindles each, Motor driven
1—WINDER, Automatic, 24 spindles, 1947 model, Motor driven
2—Winders, ±50, 6 spindles, Motor driven
4—WINDERS, 60 GF, 96 spindles each, Motor driven
3—WINDERS, ±40, 100 spindles each, wind to cork cones
1—WINDER Skein, 130 spindles, Motor driven
6—WINDERS, ±99, 56 spindles each, Motor driven
6—TWISTERS, doubledeck, 200 spindles each, 4¼" gauge, Motor driven
2—TWISTERS, 100 spindles each Motor driven
2—TWISTERS, Clutch spindles, with Creels, Motor driven
3—TWISTERS, 240 spindles each, 3½" gauge, Motor driven
4—TWISTERS, Model B, 144 spindles each, 3¼" gauge, Motor driven
2—WARPERS, Sipp, Rayon, 93", Motor driven
2—WARPERS, Sipp, Rayon, 72", Motor driven
8—MULES, 360 spindles each, 14" bobbins, year 1946, Motor driven
2—MULES, 300 spindles each, 2½" gauge, Motor driven

DYEING & FINISHING:

2—SLASHERS, Johnson, Rayon, 66", 5 Drums, 1940 Model, Motor driven
1—SLASHER, Johnson, 52", Rayon, 3 Drums, Motor driven
1—SLASHER, V.V., Rayon 66", 5 Drums, Motor driven
2—SLASHERS, Saco-Lowell, 52", 5' & 7' Diam., Motor driven
2—DYE JIGGS, Morrison, 50", stainless steel, Motor driven
2—DYE JIGGS, V.V., 60", stainless steel, Motor driven
1—TENTER FRAME, V.V. 40' 54", stainless steel clips, New Motor and drive
2—EXTRACTORS, Tolhurst, 48" Copper baskets, Motor driven
1—EXTRACTOR, American Textile, 60", Copper basket, Motor driven
2—MEASURING, Folding & Doubling Machines, New 1948, 60", Motor driven

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Complete Plant of 24 Looms for Goods from 42" to 50" Width

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1—40" Butterworth Tenter Frame 72" wide
12—Werner Dye Jigs 52" and 73" wide
5—Merrow Sewing Machines
4—3 roll Padders 45" wide
1—44 Can Machine 50" wide
Box and Platform Trucks
Ventilating Fans 40" Blades

24—C&K 72" Automatic Bobbin changer, 2x1 silk & rayon looms, intermediate heads, 20 hook, motor driven, roller bearing, built in 1925, 11,000 serial numbers.
3—Universal Tubers #50
4—Hermas Inspecting Machines
5—Sipp-Eastwood Warpers 84"
6—C & K 72" Looms Worsted 4x4 motor driven

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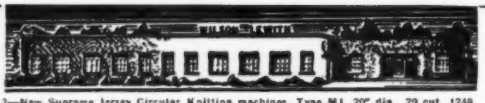

2—New Supreme Jersey Circular Knitting machines, Type MJ, 20" dia., 20 cut, 1248 needle, inserted wall cylinder, 50 GGE, 64 feeds with 64 ends, top & bottom Crawford Electric Stop Motions motor driven.
40—40" Kitson Pickers
50—38" Kitson Hoppers
10—Vertical Openers
12—#4 Bale Breakers

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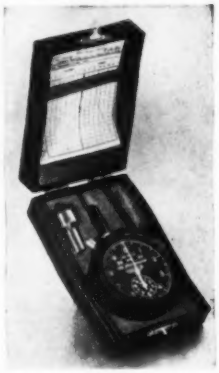

Jaeger Model 4050A TOTCO MODEL 942
" " 43-A1 " " 943
" " 43-A3

- Ideally suited for testing the speeds of motors, particularly of fractional horse power, generators, turbines, centrifugals, fans, etc.
- Very small Torque — requires practically no power to drive.
- Unequalled Readability 2" Open face dial—each division on large dial equals 1 RPM; each division on small dial equals 100 RPM. 0 to 1000 RPM.
- Greatest Accuracy—meets Navy specifications—guaranteed to be within ½ of 1%.
- Results of test reading remain on dial until next test taken.
- Push button for automatic resetting.

Will give accurately, within a few seconds, by direct reading, the R.P.M. of shafts. Each unit comes complete in a velvet lined carrying case 5"x3½"x 1½". Net List Price $70.00—Surplus—Guaranteed. Your cost $12.50 F.O.B. Chicago, Ill.

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5000 CORNELL CHICAGO 15, ILL.

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1—Grand Rapids 3 roll Calender Machine complete.
4—Hoffman Steam Presses with individual motors, with automatic push button control, size 24 x 60.
2—McCreery Brushing Machines, double roll, 54".
Brushing Machines, Ainslie, new and used, all sizes.
1—40 Spindle Foster Cone Winding Machine, Model 12.
Flat Knitting Machines, new and used, all gauges.

Ainslie Knitting Machine Co.
INCORPORATED
740-750 Grand Street, Brooklyn 11, N. Y.

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used and rebuilt

KNITTERS—RIBBERS—LOOPERS—
CYLINDERS—DIALS—TRANSFERS
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N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.

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1—New 64" Tuber & Meas., Motor Driven
2—Extractors, 26" & 48", Motor Driven
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1—Set 20 Cans 80" Copper

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1—Fitzgibbons 75 H.P. Boiler
77—#1 and #2 N. E. Butt 8 carrier Braiders
1—19 Roll 50" VV Button Breaker
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1—42" Butterworth 3 roll calender
1—50" Calender—2 paper—1 steel roll
1—60" Textile Finishing Calender—4 rolls
1—70" 3 roll calender—2 steel—1 paper
1—42" Farmer Norton Schriner Calender
1—50" Perkins 100 ton Hydraulic Calender
1—54 x 60" James Switch Card
1—60" x 60" D & F Card
1—60" D & F Tape Condenser—112 good ends
1—60" D & F Double Rub Apron Condenser
1—360 end—Sipp Eastwood Magazine Creel (Giant Package)
1—50" Parks & Woolsen Semi Decater
1—60" Parks & Woolsen Semi Decater
1—66" Kenyon Tenter Dryer—96 yds.
1—200 lb. Franklin Package Dyeing Machine
1—500 lb. Franklin Package Dyeing Machine
1—28 stick Klauder & Weldon Skein Dyeing Machine
1—72" Stainless steel Dye Jig
3—4 ran Drawing Frames
1—48" Tolhurst Extractor
1—40" Amico Extractor
1—48" Amico Extractor
2—#10 Hunter Fulling Mills
16—56" C & K 2x2 Looms
18—82" C & K 4x4 Looms
24—81" Draper Modified "D" 2x1 C & K Gem Head Looms
160—50" R.S. C & K 2x1 S-S Rayon Looms
4—54" R.S. C & K 4x1 Looms
4—60" R.S. C & K 4x4 Looms with 1304 Jacquards
8—82" R.S. C & K 4x4 Looms
22—48" R.S. C & K 2x1 Automatic—12 harness Looms
6—80" R.S. C & K 4x4—30 harness Looms
4—80" R.S. C & K 4x4 with 1304 Jacquards
16—82" R.S. C & K 4x1 W-3 looms—1936
4—82" R.S. C & K 4x1 W-3 Looms—1946
15—600 Hook—C & K Jacquard Machines Double Lift
16—1304 Hook—Halton Jacquards—Fine Index
1—52" Woonsocket Double Acting Napper—36 rolls
1—60" Verduin Double Acting Napper—18 rolls
1—86" Woonsocket Double Acting Napper—24 rolls
1—New 1948 Morrison 3 roll Padder—15 ton
3—24" Schofield Rag Pickers
1—66" C & M Double Bed Steam Press
9—Columbia Re-Draw Frames—72 spindle
28—Clotz Spinners—4½ gauge—90 spindle
9—D & F Mules—1¾" Gauge—300 spindles
2—D & F Mules—2¼" 330 spindles
16—Atwood 5B Doubler Twisters—104 spindles
5—Atwood 5B Double Twisters—96 spindles
4—Atwood 5B Twisters—5" Gauge—100 spindles
3—Sipp 54" Horizontal Warpers
1—Sipp 72" Horizontal Warper—heavy staves
1—Saco-Lowell Slow Speed Warper, Creel & Section Beams
1—New Verduin High Speed Blanket Washer, Size 2 Model F Complete with Blanket

EXPORT ONLY
14—C & K—76" R.S. Terry Towel Looms with 600 Hook Jacquard Machines & Supplies

RIBBON & NARROW FABRIC MACHINERY
8—Used Knapp Blocking Machines
1—New Miller Blocking machine
1—Reihl Blocking machine
1—4 roll 12" calender
1—2 roll 12" calender
3—Knapp Direct Warpers
1—Set 6 Butterworth Dry Cans 23" Dia. x 40", complete with 2 roll quetch
1—Set 6 cans 23" Diameter x 24" Face with 3 roll quetch
1—Set 3 cans 23" Diameter x 18" Face
1—Cottage Steamer 2' x 8' x 4'
4—15'8" S & U Looms—36 space double deck Batten
8—15'8", S & U Looms, 28 spaces, complete with rubber take-up Steel and wood warp beams—harnesses, etc.
2—15'8", S & U Looms 44 and 48 space Battens
2—18', S & U Looms, 36 space Battens
3—9'6" S & U Looms, 8 space 2 and 4 Bank Battens
1—C & K 12 Head Ribbon Quill Winder
1—Universal #16 16 head Quill Winder
1—Benj. Eastwood Skein Winder—60 spindle
1—6 color 12" Ribbon Printing machine—50 shells
10,000 Warp Spools—3" Head x 12"
1,000—6 pin Automatic Let-offs

1—Small Ribbon Dyeing & Finishing Plant as going business.

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Specializing in Export & Domestic Production Machinery

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52" COMPLETE
RECONDITIONED

WARPERS
WINDERS
QUILLERS
LOOMS

PREPARATORY
2—Sargent 42" Picker Feeds
2—Hardwood 60" Garnett Feeds
1—Hunter 7 section Raw Stock Dryer
1—Sargent 48" Rag Duster
1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (Box)
1—C. & M. 48" Fearnaught Mixing Picker
4—Schofield Hard Waste Pickers 18"x30"
1—Schofield 42" Carding Rag Picker
1—C. & M. 48" Burr Picker with Feed
1—S. F. 36" Lumper, ball bearing
1—Kitson 36" S-L Bale Breaker
1—60" Tape Condenser, double bank
1—Taylor-Wadsworth Backwasher and Dryer

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UNIVERSAL #50 & #90 WINDERS REBUILT TO ORDER
2—Universal #45 Winder Heads
2—Universal #8 Winders
1—Foster Model 12, 80 sp. Skein to Cone Winder, Mtr. dr.
1—Whitin 378 Sp. Quiller 2½" gauge
3—J. & B. Jackwinders
1—O. L. No. 20 Hi-Speed Cop Winder
2—Worcester Warp Comp. Spoolers

WARPING AND WEAVING
1—S. F. Warp Compressor
4—Altemus or Cleveland type Warpers, rebuilt to order
2—Altemus Long Chain Beamers
1—Worcester Cone Creel, elec. stop motion, magazine type, 176 active ends
4—C. & K. 52" 4x1 automatic Looms
12—C. & K. 52" 4x4 Box Looms
75,000—8" automatic Loom Bobbins

FINISHING
1—Perkins Cloth Filer, 72" traverse
1—Hunter No. 10 Fulling Mill
1—Fletcher 60" Mtr. Dr. Extractor
3—Tolhurst Mtr. Dr. Extractors 72"-96"
1—Butterworth Rope Squeezer
1—C. & M. 170" Rolling Teasel Gig
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 66" Heavy Duty Press
1—Voelker 66" Double Bed Press
1—P. & W. 66" 4 cyl. Brush & Sander
1—K. & B. 72" Full Decator
4—Hermas, Werner Mtr. Dr. Inspecting Mach. 72"-96" wide
1—P. & W. 72" Roll., Meas., & Doubler

MISCELLANEOUS
2—Sturtevant No. 2 Pumps
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8—C & K, 4x1 Automatic Box Bobbin Changing, W-2 head, 70" between swords, C-4 convertible, electric warp stop motions individually motorized.
TRENT FABRICS CORP.
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FIBRE HEAD SPOOLS
Manufactured to your specifications. Prompt Production Time and Delivery Available Now on Spools for Rayon, Nylon, Silk, Jute, Wire, Cotton and Wool.
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Largest Warehouse Stock in the South

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Dealers in Rebuilt and Guaranteed

Yarn Winding and Spinning Machinery

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LIQUIDATIONS — *Textile Machinery* — *APPRAISALS*

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2 Platt 40" Cotton Cards, 24" Doffer, 12" Coiler

18 Saco-Pettee Spinning Frames, 3½" ga., 2" ring

16 48" C&K 12-har. 2 x 1 Aut. Looms, with motors

3 Lowell Machine Slashers, 5' and 7' cyl.

2 Tolhurst Centrifugal 48" Extractors

50 Universal 290 Winders

WHITEHEAD SUPPLY & ENGINEERING CO.

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Complete Engineering Services Available

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BOBBINS

150,000—8¼" Automatic Loom Bobbins.
81,600—8¼" Wool Bobbins.
100,000—Warp Bobbins, 8½" O.A.
2,200—Slubber Bobbins 12x6 Saco-Lowell—Cotton

WORSTED MACHINERY

1200—Live Ends of Universal Magazine Creels.
7—Hall & Stells Ring Spinning Frames—3¼" pitch.
2—Universal Winders 290—Bunch Builders.

MISC. SUPPLIES

150—Pr. Ratchet Friction Heads 175556, Weight Hangers, Friction Bands & Weights.
1000—Fibre Roving Cans, 10"x36" & 12"x36".
100,000—14" Flat Steel Heddles.
7600—Worsted Spinning Spindles, 29⅛" x 7/16".
400—Twister Rings (Herr) 4"
2000—Twister Rings (Feaster) 4"

WANTED

Flat Steel Heddles, 12"—13"—14" for Cotton, Rayon & Worsted

P. O. Box 495 — Pawtucket, R. I.

FOR SALE

45—Crompton & Knowles, S-4 Looms, 54" Between Swords, 4x1 Box, Automatic Shuttle Change, Complete with 20 Harness Dobbies, Electric Warp Stop Motions, 3/60/220 Volt, Motor Driven. Priced To Sell.

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CHARLOTTE, NORTH CAROLINA

Cable: Intertex — Phone: 3-1894

FOR SALE

Repeaters, Lacers Card Cutters Jacquards of all description, also Plush Jacquards, Beamers

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Let the Searchlight Section of Textile World "spot" the buyer for you. For rates and other information write the

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330 West 42nd St., New York 18, N. Y.

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2—8 spindle draw boxes 14" x 8"

3—8 spindle draw boxes 14" x 9"

10—2 spindle gill boxes 14" x 9"

4—6 spindle gill boxes 14" x 8"

8—can gill boxes

5—creels

1—32 spindle cone finisher 12" x 6"

81—gill box cans

2—80 spindle cone rovers 4" x 8"

1—T. W. open finisher box—2 heads—4 balls

Write or phone

NATIONAL WORSTED MILLS INC.

JAMESTOWN, NEW YORK

We Are Offering for Immediate Delivery

1—60" Werner hydraulic Padder.
1—3 Roll 45" Motor Driven Quetch.
1—40' 60" Winsor & Jerauld Tenter Frame, complete.
1—V. V. 66" Palmer unit, complete with Quetch and Tenter Frame.
1—V. V. 54" Embossing Calender No. 2 Pattern.
2—50" Werner Dye Jiggs S. S. lined.
1—50' x 92" National Dry Box.
2—54" General enclosed gear S. S. line Dye Jiggs.
1—Set of 9—20" x 60" Heavy Steel Dry Cans
1—Set of 6 copper cans, vertical, Reeves & motor.
1—Set of 7 copper cans, horizontal, Reeves & motor.
1—Set of 3 copper cans, 36" diameter by 60" face.
1—50" V. V. Button Beaker.
1—48" Tolhurst Centrifugal Self Balancing Extractor, with motor on side.
1—36" motor driven self balancing Hercules Extractor.
1—60" V. V. M.D. Horizontal Extractor.
2—60" motor driven Beamers.
2—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
60-80 gallon stainless steel steam jacketed Kettles.
30-60 gallon copper steam jacketed Kettles.
2—Motor driven 84 spindle Fletcher Duplex Machines.
1—58" Herman Measuring & Inspecting Machine.
3—No. 50 Universal Coners.
1—U. S. 7½ H. P. Vari-drive.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
2—2 H. P. P.I.V. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.

1 Complete 40 Draper 54" Reed Space Automatic Loom Plant in running condition.

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COMPRESSORS VACUUM PUMPS

NEW & GUARANTEED REBUILT

Your favorite make in a guaranteed Re-Built Stationary—Portable

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AMERICAN AIR COMPRESSOR CORP.

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Special—22x9 IR Vacuum Pump Timken Bearing "ES" 1184CFM

THEODORE BIALEK & CO.

NEW AND USED TEXTILE MACHINERY

LOOMS, MOTORS, WINDERS, WARPERS AND SUPPLIES

DOMESTIC *EXPORT*

APPRAISALS AND LIQUIDATIONS

396 STRAIGHT STREET PATERSON, N. J.

LAMBERT 3-5886-7

FOR SALE

5—Sets 3 cyl Cards 60 x 60 Mod G 1946, 2-D&F, 3-Whitin.
4—Whitin 120 sp Wool Spinning Frames, Mod E 4½" ring 1946.
6—D&F 120 Sp Wool Spinning Frames Mod E 5" ring 1946.
9—D&F 330 sp Mules 1¾" & 2¼" ga.
1—9 Ball Creel, Saco-Lowell.
1—Woonsocket D.A. Napper 84" 24 rolls 1944
20—C&K Auto Looms 4 x 1, 82", W3 Mtr. Dr.
24—C&K Auto Looms 4 x 1, 84", Mtr. Dr.
12—C&K Auto Looms 4 x 1, 82" Mtr. Dr.
24—C&K Auto Looms 4 x 1, 78" Mtr. Dr.
1—Kenyon 96 yd. Pin Tenter, Mtr. Dr.
1—Raw Stock Wool Carbonizing Plant.
32—Draper Mod. D. 64" Looms Mtr. Dr.
16—Draper Mod. D. 72" Looms Mtr. Dr.
40—Stafford 40" Looms Mtr. Dr.
400—Draper Mod. E. 40" Looms.
1—Entwistle H. S. Warper 541/4".
1—Barber-Coleman Drawing-in Machine.
1—Bradford Wool Combing Plant.
1—Worsted Spinning Plant 4600 spindles. Rayon Equipment.

JAMES SPEED & CO., INC.

170 Summer St. Boston, Mass.

FOR SALE

2 #50 Universal Winders, Tubing or Coning
3000 Franklin Process 6" Springs Nickelene
1000 doz. # 0 and 00 1 oz. tubes mercerized Fast colors, Sak Cotton

F.S. 7815 Textile World
330 W. 42nd St., New York 18, N. Y.

FOR SALE!

1—50" Cloth Mercerizing Range
1—64" Rubber Roll Backfiller
1—126" 5-roll Water Mangle
1—90" 3-Roll Water Mangle
1—60" 2-roll Scotch Mangle
1—60" 3-roll Starch Mangle
1—33 Can Dryer, 23" x 127" Face
1—Morrison "Taylor" type Kier Piler
1—King & Gerber 60" Extractor
1—Tenter, 80' long, 90" Cloth
6—Werner 50" Stainless Steel Jigs
2—Logemann Cloth Baling Presses
1—Textile 100" 3-roll Calender
1—Textile 60" Friction Calender

Complete Units

1—Cotton, Rayon Bleaching, Dyeing and Finishing Plant
1—2 Machine Roller Printing Plant
1—3 Machine Roller Printing Plant

JAMES E. FITZGERALD

Textile Machinery

10 PURCHASE STREET Tel. 8-5616 FALL RIVER, MASS.

"Specializing in Bleaching, Dyeing and Finishing Machinery"

JUST WHAT YOU NEED MAY BE *here!*

24—C&K Rayon Box Looms 54"—2x1 Box with Dobbies, elec. stop & feelers, auto let-off, Individual Motor drive
12—C&K Woolen Looms 100" RS—4x4 Box 25 Harness Heavy Gem Head Electric Stop Motion Motorized
12—C&K 2x1 Auto S Harness Cam Looms 80" RS—Motorized
4—C&K Automatic 4x1 Box Looms—25 Harness Head Motion Elec. Stop Motorized 82" wide
24—C&K 2x1 Box Looms 72" Gem Heads Elec. Stop & Feelers, A&B Let-off Motorized
250—Draper E Auto Looms 40" Lacey Tops Belt Drive complete ready to run at a bargain
12—Draper 82" Worsted Loom Model D 20 Harness Gem Heads, Elec. Warp stop Motorized
18—Draper 70" Auto Looms—20 Harness Dobby Heads, Mech. Stop Motion, Friction Let-off Belt Drive
5—Draper "D" Cam Looms 60" Motorized
2—Foster Model 102 Cone Winders—100 Spdles, Twin Motors
2—Foster Model 12 Cone Winders 100 Spdles.
30M—Wood Plugs for Foster Winders
1—Universal #44 Roto-Coner—100 Spdles
2—HS #128 Entwhistle Warpers with 1000 End Creels
25—#90 Universal Winders with Bunch Builders
8—#50 Universal Winders for tubes Motorized
6—Whitin Model A Wool Spinning Frames 192 Spdles, 4½" Gauge—3" Ring
1—Cleveland 82" Dressing Reel
6—New 56" Inspecting & Measuring Machines for Rayon or Silk
20—Rebuilt Bahnson Humidifiers Model D 220 Volts
12—Rebuilt Bahnson Humidifiers Model H —High Speed
30—Model J Controls for above
20—Atwood & Sipp Silk or Rayon Skein Winders
700—Raw Silk Swifts for Winders
200—Textile Loom Motors ½ to 1½ HP all rebuilt in 220 and 550 Volts
16—West Spinning Frame Motors 10 HP 1800—60/3/550V
3—New GE Textile Loom Motors 1½ HP 1800—60/3/440V
2000—Pick Counters—Late Type Veeder-Root both resettable and non-reset complete with drives
560—Waltham Day & Night Reset Pick Counters complete
15—sets New KA 8 Bank Elec. Warp Stop Motions 59" complete
One Million KA Electric Drop Wires ⅝"x .006—open

complete stock of weaving equipment and supplies

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240 York Ave., Pawtucket, R. I.

PRINTING MACHINE—TWO COLOR—44 INCH CYLINDER. CAN BE SEEN IN OPERATION. REPLY:

F.S.-7732, Textile World
330 W. 42nd Street, New York 18, N. Y.

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Write Today To:

Departmental Advertising Staff
330 West 42nd Street, New York City

FOR SALE

4—Crompton-Knowles, 82" 16 harness, 4 in 1 Box looms complete with motors.
1—Davis Fecker Warp Mill complete.
1—Universal Winder with motor.
1—Hand card cutting machine for jaquard.
4—Jaquard heads.
Extra parts, etc. Excellent condition and priced for quick sale.

FRANK R. GOMEZ
1026 Wall St. Los Angeles 15, Calif.

FOR SALE

4 Cidega looms

54 inch, two years old, operated very little, excellent condition.

J. R. McINVAILL
Empire State Building, New York 1, N. Y.
PEnnsylvania 6-9546

WANTED

MACHINERY
WANTED

Worsted Spinning Mill, capacity of 2200 to 4000 lbs. in 8 hours
Carpet Yarn Mill
Kitson waste picker, 4 sections, for cotton waste
Worsted Top Dyeing plant for 5000 lbs. in 8 hours
Wool Dyeing for 5000 lbs. in 8 hours
Backwashing for 4000 lbs. in 8 hours
Woolen Cheese dyeing—500 lbs. in 8 hours
Stainless steel

W. 7831 Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

2 or 3 No. 44 Universal Rotoconers with cast iron traverses, double slubbing and paraffin—

Whitin Schweiter Automatic Filling Winders with a total of around 36 spindles to handle 8" Automatic W3 Loom Bobbins, Up to 20 W3 C & K looms 82" looms.

All these machines to be used but in very good condition.

LESTER & BURTON LIMITED
251 Sorauren Ave. Toronto, Canada
Telephone—Melrose 5764

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

WANTED-CHEMICALS

Dyes—Colors—Pigments
Oils—Waxes—Drugs
By-Products—Wastes—Equipment

CHEMICAL SERVICE CORP.
80C Beaver St. New York 5, N. Y.

Wanted for Export

PRINTING MACHINE, 8 or 10 colors, complete with dryer.
HYDRO AGER, 50", in perfect running condition.

W-7781, Textile World
330 West 42nd Street, New York 18, N. Y.

WOOLEN YARNS WANTED

All wool, in any quantity or color

STANRICH MILLS CORP.
370 Park Ave. Worcester, Mass.
Tel. 5-1738

WANTED

Looms and equipment to start cotton chenille and bath rug mill

W 7733 Textile World
330 W. 42nd St., New York 18, N. Y.

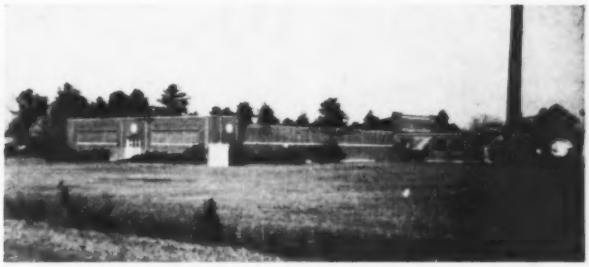
WANTED

98 spindle thread dressers. Advise make, number of brushes, and location and price.

W. 7826 Textile World
330 W. 42nd St., New York 18, N. Y.

"Opportunity" Advertising:
Think
"SEARCHLIGHT"
First

FOR SALE



Modern air conditioned building, all-around glass block on brick, last word in factory construction 317 x 100 feet, fully sprinklered, pillars so located that free spans are exceptionally large. Heating plant in adjoining building 48 x 48 feet located on 8-1/4 acres of land 35 miles from Wilmington, North Carolina. Plenty of help available in close proximity to plant. Will sell for pre-war costs. Own water plant. Own sewerage disposal plant.

DEXDALE HOSIERY MILLS

LANSDALE, PENNSYLVANIA

POSITIONS WANTED

(Continued from page 320)

MAINTENANCE ENGINEER of a group of nine textile plants and in charge of their shop and foundry, wants maintenance, superintendents, or machine design and development work. Was previously superintendent of coarse yarn, duck and cordage plants for eleven years. Have had ten years experience in handling sales, sales adjustments and sales development work on the road. Experienced in the design and development of automatic machinery. Available for consultation. PW-7752, Textile World.

AVAILABLE, RAYON plant superintendent and quality control technician experienced on rayons, acetates, nylons, ramie, wool mixtures and blends. Five years experience as assistant in successful mill. Will go anywhere. PW-7755, Textile World.

TEXTILE ENGINEER — 39 — married, 18 yrs. experience mfg. of rayon in supervision, development, and quality control. Also, yarn conversion, winding, throwing, coning, quilling, warping, beaming, slashing, drawing in, weaving, and cloth inspection of spun and continuous filament yarns. Consider supervisory, development or sales position. PW-7807, Textile World.

WEAVE FOREMAN desires change 18 years experience dress fabrics and jacquard field. PW 7820, Textile World.

POSITION WANTED

PLANT MANAGER

Capable and energetic Superintendent Textile graduate, with wide experience on colored goods, including rayons and blends wants to make new connection with progressive organization. Good manager of help, well experienced in cost and production control, as well as styling and production of new goods.

P.W.-7790, Textile World
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BROAD, SUCCESSFUL experience in all phases of Personnel Administration. Wide experience in Job Evaluation and Employee Merit Rating Plans. Heavy experience with Labor Unions. Now employed as Personnel Director in middle West. College graduate—married—age 38—native Southerner—want location in South. Had textile experience. Salary open—PW 7829, Textile World.

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I would like to have a look at mechanical devices developed by people active in the textile industry or on the outside. I am interested in financing mechanical or other devices in an amount up to about $10,000. Transactions will be strictly confidential and the right of the inventor properly protected. If you have anything to submit, give me a rough outline of it addressed to George J. Wilson, BO-7567, Textile World, and I will arrange an appointment at some mutually convenient place.

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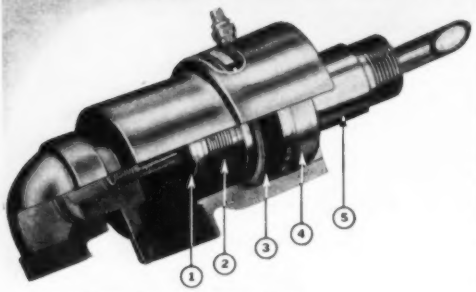

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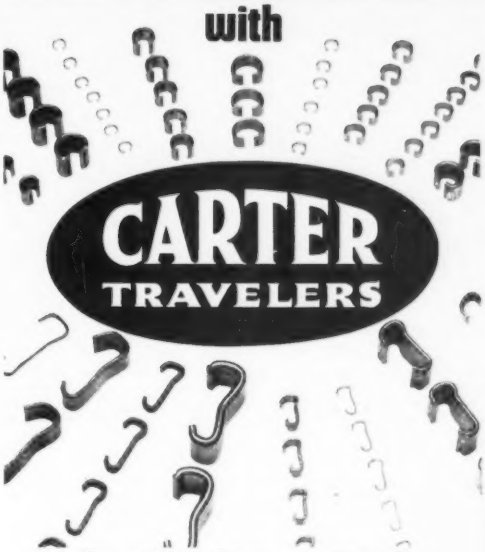

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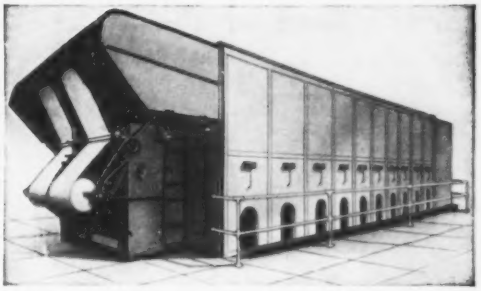

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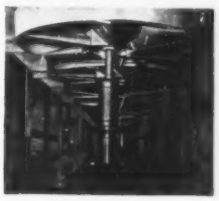

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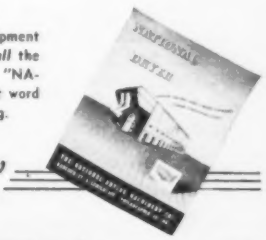

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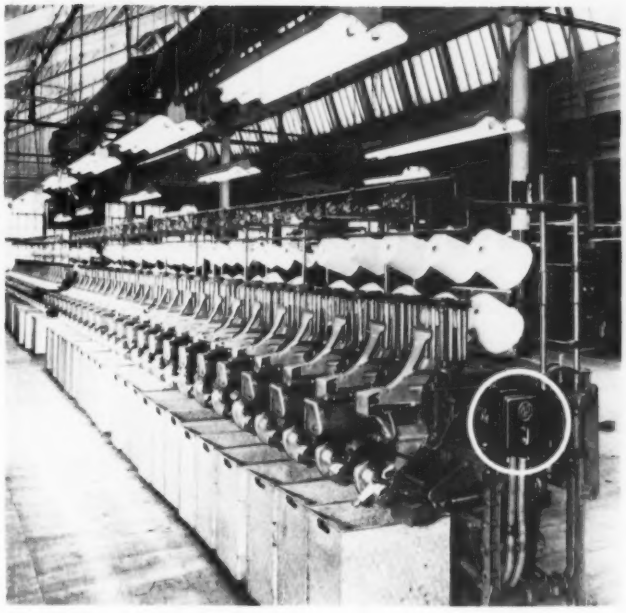

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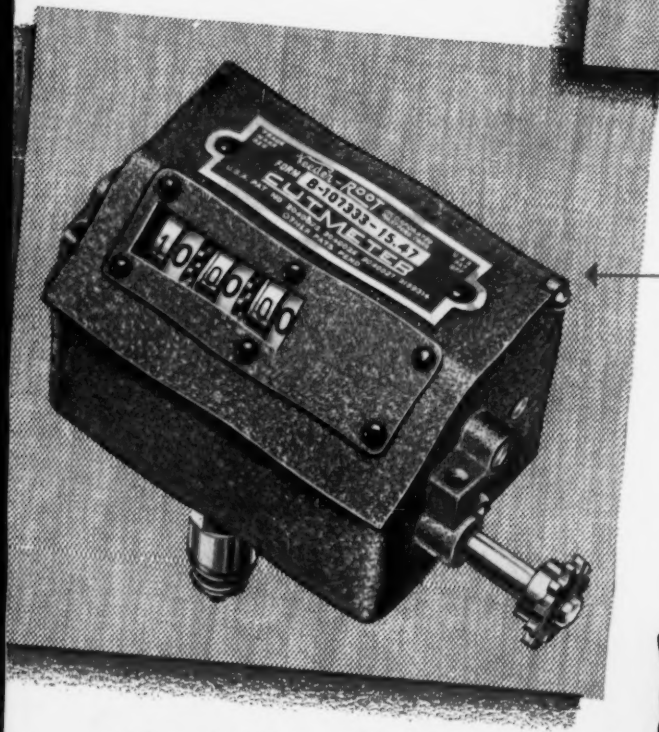

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